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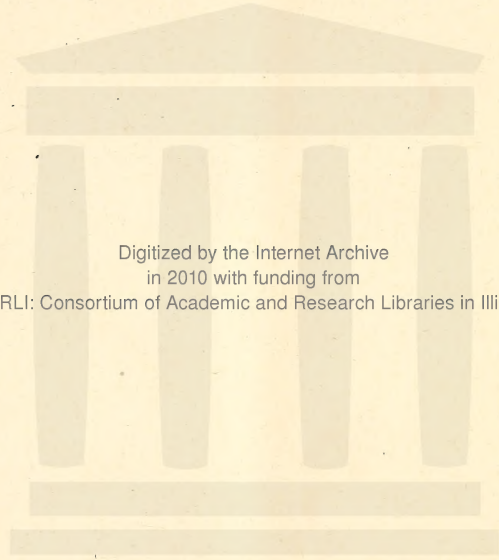

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THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS
MEDICAL DEPARTMENT OF THE
UNIVERSITY OF ILLINOIS,
CHICAGO.

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SENIORS HONOR DR. QUINE ON SIXTY-THIRD NATAL DAY,

Annual Social Function held on February 3, is a Brilliant Affair. Faculty Also Pays Respect to the Dean on Delivering His Fortieth Annual Lecture Course at P. & S. College.

The annual reception was tendered the Dean, Dr. William E. Quine, in honor of his sixty-third birth-day, by the class of 1910, on Thursday evening, February 3, 1910. It was held at the West End Woman's Club, which was artistically decorated for the occasion. The stage was beautifully decorated in green, and in the center was the portrait of the Dean, while over head hung "Old Glory."

Overhanging the entire length of the hall were decorations of formed lilacs and smilax, while upon the walls were many pennants, the emblems of the college, the fraternities and the societies. The floor was in excellent condition for the ball.

The parlors in which Dr. Quine was received were decorated with an artistically arranged display of flowers.

R. W. McNealy, class valedictorian, as chairman of the reception committee, acted as master of ceremonies.

Interest in the evening's program reached its height when attention was called to the painting by Mr. Zan D. Klopper, of the Senior class, which was to be presented to Dean Quine by the class as a token of its esteem and re-

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spect. The presentation was made by Mr. P. M. Currer, class president.

Dr. Quine, in accepting the gift, spoke in part as follows:

"If the words of graciousness and compliment characterized my career as a teacher had been applied exclusively to my efforts, I would gladly accept them as true, for I really have tried to be a good teacher, and outside of my domestic relations this desire and effort have represented the highest interest I have had in life.

"This is my 40th annual course of lectures. I began at a time when the ladies of my present class had not begun to wear long dresses. I am sure that if the old stalwarts who founded medical education in Chicago strayed into one of the colleges of our day they would not know where they were, so great have been the advances in methods and equipments.

"This beautiful painting; representing a violin, resting on some sheets of classical music, reminds me of the leader of an orchestra or first violin as compared to the man playing "second fiddle;" the one, bringing out with masterly strokes, full, round, clear notes with marked expression, while the other sits over to one side "sawing away" in monotonous strain the "second fiddle."

"I am glad that the gift is not a soft-cushioned armchair, for that would have signified for me to *go way back and sit down.*

"It has been a pleasure, a contentment and a joy for many years to know that I have been making good as a man, a physician, a husband, a father, a brother or a friend.

"I thank you out of a heart full of gratitude and love for this manifestation of your appreciation of my efforts."

Mr. Currer, in making the presentation spoke as follows:

CURRER'S SPEECH.

"Members of the Faculty, Fellow Students, Ladies and Gentlemen:

"The department of medicine and surgery in Chicago

may be likened to an autocrat in the midst of a free people. To its will the mayor of Chicago humbly submits, the police gladly carry out its instruction, the manufacturer is forced to yield and improve the hygienic surroundings of his employees, while the private citizen under certain conditions may be held prisoner in his home. All this, and more, has been done by the doctor through his untiring efforts since the year 1812, which date marks the beginning of medical activity in Chicago.

"The records show Chicago in the early part of the nineteenth century a settlement of a few homes near the foot of what was then known as the creek, now officially called the Chicago river. The profession at this time consisted of a single member, a Dr. Van Voorpees, who lost his life in the massacre of 1812. After his death no medical man was known in these parts for several years when Dr. Alexander Wolcott became the second resident physician.

"The first great doctor came to our city in 1833, Dr. E. D. Hormon by name. He, like the other early medical men, was a military surgeon and has been called the Father of Surgery in Chicago. He showed his skill by an operation on a mail carrier whose feet were frozen and sought attention at the fort. Dr. Hormon found it necessary to perform an amputation, so, with the patient strapped to a chair, with several strong men to assist, the doctor removed all of one foot and part of another. The instruments were crude, while sterilization and anesthetics were unheard of.

"A great contrast to our city of today was this Chicago of 1830, with no sewers, a water system consisting of pails and barrels, one or two log bridges across the river, no sidewalk or pavements; it being a common thing to see teams stalled in the mud at such places as Lake street, near Clark. Chicago was simply a collection of rude homes set in the middle of a swamp.

"At this stage of undeveloped Chicago, Dr. Brainard came from the East to busy himself as a practitioner and founder of a great medical school. He, with a few friends, founded Rush Medical College in 1843, a school whose re-

quirements for graduation, at that time, consisted of a two years' course of 16 weeks, each with a certain amount of study under a preceptor. The college rapidly grew and its courses and equipment improved. After two years they had a good microscope and four years later they built a hospital, which, after various changes, was to become the Cook County Hospital. The attendance at the school was large, and all went well until 1859 when the president, Dr. Brainard, and the secretary, the late Dr. N. S. Davis, differed in their views on the course of instructions, the result being a separation in the faculty. Dr. Davis and his followers left Rush and established Northwestern, then known as the Chicago Medical College. Both schools made advancement until the time of the fire in 1871 when Rush was burned and Northwestern came to her aid by offering the use of her building. Following the establishment of Northwestern Medical College came several other schools in rapid succession, namely: Hahnemann, Bennett, Northwestern Women's, Chicago Homœopathic, and last, but not least, the College of Physicians and Surgeons, organized May 4, 1881. Unlike most schools the founding of the P. & S. was not due to a dispute among the faculty of some other college, but with the idea of establishing a more modern, systematic course of instruction for the medical student then had yet been offered.

"The class of 1910 has taken advantage of its privileges and now as it is about to engage in the activities for which it has been prepared, it goes with great satisfaction and gratitude for all the college has qualified it to attain. While not forgetting the ability and effort that has been put to this task by each member of the faculty the class would especially pay tribute to the honored head of the institution, and in so doing honor itself and also various faculty members.

"Dr. Quine is the type of man whom those who know him best delight to honor, both in his conspicuous ability displayed in his teaching and practice and for his quality as a leader of men. He is a man of whom it may be said "His

looks are gentle and the elements so mixed in him that nature dares lift up her head and say 'this is a Man.'

"Of him his former student, Dr. Billings, has said 'what more can be said of a teacher then that his students of 21 years ago have never found cause to unlearn what he taught. Dr. Quine has few equals and no superiors either in general or consultation practice.'

"Desiring, therefore, to express in a concrete way its deep appreciation of your ever attentive consideration, the course of instruction you have outlined for us and the aid and inspiration which your presence among us has been to the class, I take great pleasure, Dr. Quine, in presenting this picture as a class gift."

RECEPTION COMMITTEE.

Ray W. McNealy, Chairman; William J. Siegler, Howard R. Sword, Paul A. Soelberg, Homer E. Rich, Sidney A. Smith, William H. Bradley, Western C. Loomis, Milton D. Jeffs, William G. Epstein.

FACULTY RECEPTION COMMITTEE.

Dr. Daniel K. Steele, Dr. Oscar A. King, Dr. G. Frank Lydston, Dr. William A. Pusey, Dr. Thomas A. Davis, Dr. Frank B. Earle, Dr. Albert J. Ochsner, Dr. Arthur M. Corwin, Dr. Charles S. Bacon, Dr. Charles S. Williamson, Dr. Rachelle S. Yarros, Dr. Charles Davison, Dr. Edward L. Heintz.

FLOOR COMMITTEE.

Lee W. Cary, Chairman; Frank L. Stone, James W. Packard.

ALUMNI NOTES.

BIRTHS.

Born to Dr. and Mrs. Channing W. Barrett, a daughter, January 21. The young lady has been christened Ruth Ester.

Born to Drs. H. J. and P. B. Hoeve, a daughter, January 24. Miss Hoeve, like her parents, will some day have the title of "M. D."

MEDICAL STUDY IN EUROPE.

By Bernard Fantus, M. D.

Professor of Materia Medica and Therapeutics and Assistant Professor of Clinical Medicine, College of Physicians and Surgeons, Medical Department University of Illinois.

ARTICLE IV.

COURSES FOR AMERICANS IN BERLIN.

There are public post-graduate courses in Germany, given with the assistance of the government, free of charge in almost every portion of the empire. In Berlin they are conducted twice a year, in October and in March, during the academic vacation; and are therefore known as vacation courses. They last about four weeks; and include almost every branch of medicine, clinical as well as laboratory. While the instruction is given mostly by assistants, these are generally good teachers, and they have all the material of the clinics at their command. Though only doctors are admitted to them, these courses are generally overcrowded. Nevertheless, Americans who have only a few weeks to spare and who understand German, will do well to go to Berlin in time to participate in these courses. At any other time of the year post-graduate courses in German are arranged by the "Dozenten-Verrein," for which nominal fees are charged.

There are, however, many medical teachers in Berlin who are capable of giving courses in English, and it is especially in these that the average American or English medical tourist is interested. To facilitate finding these, and to aid the stranger in many other ways, the Anglo American Medical Association was organized in 1893, by Dr. J. H. Honan, an American physician, who had made Berlin his home for quite a number of years. This Doctor Honan, it may be stated in passing, is now located at Bad-Nauheim and very recently made a tour through the United States, during which he visited Chicago and addressed the Chicago Medical Society.

Berlin is a large and busy city, and an American going to Berlin for the first time may waste valuable days, even

weeks, in getting settled and in finding out what courses it would be well for him to take. The Anglo-American Medical Association exists for the purpose of advising the newcomer regarding courses, their value, duration and cost; and most especially for bringing the stranger quickly in touch with English speaking medical teachers.

If one's time is very limited it is well to arrange so as to arrive in Berlin about the end of the week and the end of the month, for the meetings of this society take place every Saturday evening about 8 o'clock, and most courses start the first of the month and last four weeks.

September is the least desirable month in which to visit Berlin, as most teachers take their vacations and are out of town at this time. Nearly all these courses are private courses with fees ranging from 25 to 300 marks, generally 50 marks, attendance being usually limited to 4 or 6 men.

A list of these courses may be obtained by writing to Dr. Jakola, secretary of the Anglo-American Medical Association in Berlin.

On arriving at the Friedrichstrasse Bahnhof one is only a few blocks from the "Kafe Kaiserkrone," located at the corner of Friedrichstrasse and Karl strasse, where the Saturday evening meetings of the society are now held and from Rothacker's book store, Friedrich strasse 105 B., where there is a free reading room and library for members of the society. Here may be found a list of boarding houses, a list of the courses given, and of teachers of German, as well as a large number of English, French and German Medical Journals.

It does one an untold amount of good to enter the meeting hall of "Kafe Kaiserkrone" of a Saturday evening and find one's self at home among one's countrymen in a strange country. An informal talk on some important medical topic by some one of Berlin's great medical men forming one of the main features of the evening's program. At the conclusion of the lecture the business part of the meeting is attended to, there are reports of the orientation, the program, and other committees, announcements of new courses, etc.

At the end of the meeting one has the privilege of enrolling as a member for a fee of five marks ($1.25), and of enjoying the society and the disinterested advice of other American seekers after medical knowledge.

SOME NOTES ON GOITER.

By Charles Clayton O'Byrne, M. D.
Associate Professor of Pathology, and Adjunct Professor of Surgery, College of Physicians and Surgeons, Medical Department University of Illinois.

(Written especially for The Plexus.)

Basedow's disease, or hyperthyroidism, has attracted more attention during the past five years than almost any other disease. This is probably due to the fact that the medical profession has a better knowledge of this varied symptom-complex. Of its etiology we know but little. It occurs most commonly during early adult or middle life, occurring more frequently in women than in men, but its exact exciting cause in not known.

The pathology of the gland is very varied. A useful classification is primary and secondary types of the disease. By primary we mean those cases in which the symptoms develop coincident with the goiter; and by secondary, those cases in which the symptoms of hyperthyroidism are engrafted on a pre-existing goiter. The changes in the gland in the primary types of the disease are fairly constant. The gland is usually quite uniformly enlarged. The older writers describe them as vascular types of goiter. The blood supply is markedly increased. The changes in the gland proper are practically a true hypertrophy of the gland. New acini are formed and the epithelium lining the acini is seen to be more active than in the normal gland. In the secondary type of the disease the changes in the gland are those seen in the ordinary cases of simple goiter. The gland is frequently cystic, the cysts filled with a colloid mass, which is usually more fluid in consistency than the ordinary colloid goiter and in this mass are seen many degenerating epithelial cells. The symptoms of Basedow's may be engrafted

on any type of enlargement occurring in the gland. Indeed, quite a number of the cases are neoplasms, such as chondroma and adenoma.

I know of no disease which has so varied a symptomatology. The so called cardinal symptoms of goiter; enlargement of the thyroid, exopthalmous and techycardia, are not always present. The goiter is always present to a greater or less degree. The exopthalmous and other oculary symptoms may be entirely wanting. The tachycardia is practically always present, although it may not be marked. A fine tremor of the fingers when extended widely apart is a very constant symptom. Insomnia is at times a very troublesome symptom and may be the one for which the patient seeks relief. Restlessness, headache, nervousness, gastro-intestinal disturbances, such as nausea, vomiting, painless watery diarrhea, sweating, vasomotor disturbances, flushing of the skin, loss of weight, loss of appetite, breathlessness on exertion and others might be given. When such a varied symptomatology, the question arises as to what symptoms are essential to a diagnosis of hyperthyroidism. In my view, the symptoms on which a diagnosis should be based are goiter, tachycardia and tremor. This last may not be essential to the diagnosis, but I have never seen it absent in a case of undoubted hyperthyroidism. The acute cases are sometimes so severe as to simulate acute arsenical poisoning.

An interesting phase of the disease is its relation to pregnancy. The symptoms are usually aggravated should a woman become pregnant during an attack and there is liability to recurrence of the disease in a woman who has suffered from primary Basedow's, should pregnancy occur. On the other hand, I have notes of two cases in which the symptoms entirely disappeared during pregnancy. In one of these cases, however, the symptoms recurred during a subsequent pregnancy and were so severe that it was found necessary to interfere with gestation. A case of secondary Graves', from which I had removed the right lobe, with complete relief from symptoms, developed primary Graves',

with marked involvement of the left lobe on becoming pregnant. In this case I removed the left lobe, during the first weeks of gestation and the patient went to term without further disturbance.

The treatment of the disease depends somewhat upon one's point of view. There is a suspiciously long list of remedies that are recommended for use, which makes one think that none is very reliable. The disease often subsides as mysteriously as it comes without any treatment whatsoever, which fact I think accounts for the credit given to many of the remedies that happen to be in use at the time. Of the remedial measures used during acute Graves', the most valuable is rest in bed; a cold Leiter coil, a small ice bag over the precordium, will quiet the heart's action. Galvanism and other forms of electricity, are at times of apparent benefit. Of the serums in use, I believe all are of doubtful value. I have never seen any benefit result therefrom. The injection of the gland with carbolic acid, or other caustic substances has practically been abandoned, and I believe should be. Painting the neck with iodine will sometimes cause a small simple goitre to disappear.

Practically, every case of hyperthyroidism is at some period of its existence a surgical case. I would not operate during the height of the symptoms of an acute case, but if these severe cases are given proper medical treatment for a few weeks, they may be operated upon safely after the more acute symptoms have subsided. The great danger of recurrence, or of the patient passing into a condition of chronic hyperthyroidism, make operative interference advisable. The marked relief obtained by operation in practically every case of hyperthyroidism makes this one of the most valuable of surgical procedures. The mortality of the operation in skilled hands should be be very low.

As to choice of anesthetic in any grave case, I prefer nitrous oxide, given continuously, to any other form of anesthesia. In giving nitrous oxide one should always have an oxygen tank at hand, so that it can be given immediately if need be.

AN UNUSUAL CASE OF PURPURA HEMORRHAGICA.

A Neuro-Toxic Form Due to a Syphilitic Nerve Involvement Plus a Toxic Action from Potassium Iodide. A Peculiar Arrangement of the Hemorrhagic Eruption.

By WILLIAM F. BERNART, M. D., Chicago, Ill.

Instructor in Diseases of the Genito-Urinary Organs and Syphilology in the College of Physicians and Surgeons.

The mere fact of a hemorrhagic purpura following the ingestion of potassium iodide is not in itself a matter of sufficient importance to make this case one of unusual interest. The exceptional features of the case are based upon the fact that the hemorrhagic spots were only and entirely confined to a portion of the body affected by a syphilitic process within the spinal canal and the fact that the long axis of the oblong lesions all run horizontally.

History: Male, aged 37 years. Occupation, bartender. Habits, good. Family history, good. Contracted syphilis seven years ago and adhered to a carefully prescribed treatment for a period of from three to four years. Was in good health until about four months back, when he first noticed that he became tired more readily than usual, that his rest was interrupted, and also that he was loosing weight. These general symptoms gradually increased so that by the end of the second month he was able to definitely outline his condition. At this time he complained bitterly of aching pains and an intensely tired feeling confined entirely to the lower extremities. He compared the pains to those which succeeded unaccustomed and excessive exercise. These symptoms were more severe from noon to early morning than vice versa. He also complained of a general nervousness and an increased irritability. His sleep was decidedly irregular. The loss of weight was progressing, being then 27 pounds below normal. Appetite was poor. bowels were regular.

Examination: Skin and visible mucous surfaces were free from lesions. There were no anesthetic or hyperesthetic zones Patellar and cremasteric reflexes were exaggerated.

Pupil reflex was normal. Ankle clonus was negative and there was no muscular incoordination. An ophthalmoscopic examination revealed nothing abnormal. Blood showed 86 per cent hemoglobin and the urine was normal. Abdominal and thoracic organs were normal.

Treatment: Inunctions of 2 grammes of mercurial ointment daily and 1 gramme of potassium iodide three times daily by mouth.

After five days of treatment the patient reported the occurance of an eruption. An examination showed a hemorrhagic infiltration into the skin of the scrotum, both thighs and legs. The upward extension of the eruption was quite definitely limited to a surface line drawn from trochanter to trochanter, a few scattered lesions on the posterior and lateral aspects of the buttocks extended above this line. Below, the eruption was definitely marked to the lower edges of the calves of the legs; below this it became scattered and disappeared at the ankles. Most of the spots were oblong in shape, the largest about 1¼ by ¾ inch, and all assumed a horizontal position. None of the spots showed a deep ecchymosis, they were of a mottled appearance due to imperfect infiltration into the skin. There being but little doubt that the spots were due to one of the drugs given, it was decided to discontinue the iodide to ascertain which produced the lesions. After the lapse of a week the spots disappeared, a slight mottling of the surface alone being visible.

Twelve days after the beginning of the treatment the patient was again placed upon the potassium iodide. During this second course he was given larger doses, 2 grammes three times daily. Four days after readministering the iodide the eruption again occurred and was confined to the same regions as before and the long axis of the spots also ran transversely.

A third course of the iodide was started on the twenty-first day; this was followed in a few days by a recurrance of the purpura showing the same characteristics as its predecessors with the exception that the spots were not so numerous or as clearly defined. Before the inauguration of

this third course the patient showed a decided improvement in his general condition.

Thirty-one days after the beginning of the treatment the fourth course of the iodide was given; this was followed by a few ill-defined spots confined to the thighs and buttocks. A few weeks later a fifth course was tried, but it failed to produce any lesions. The persistent mercurial treatment had before the beginning of this last course gained a control over the syphilitic nerve involvement.

The real interest in this case is that the iodide alone did not produce the purpura, neither did the lesions within the spinal canal; the phenomena occurred through the combined action of the two, namely, through the toxic action of the iodide upon an area influenced by some syphilitic nerve involvement which undoubtedly was situated in the spinal canal between the first and fourth lumbar vertebra and involved the ilio-inguinal, genito-crural, external cutaneous, obturator and anterior crural nerves. The peculiar arrangement of the spots remains unaccounted for.

AN OPEN OPERATIVE TREATMENT OF FRACTURES OF THE PATELLA.

By Aime Paul Heinech, M. D.

Professor of Surgery, Reliance Medical College; Adjunct Professor of Surgery, University of Illinois; Surgeon to the Cook County Hospital, Chicago.

(Continued from January issue.)

The patients regain the use of their limbs in a comparatively short period of time; the period of imobilization is markedly shortened. Active use prevents and overcomes atrophy attendant upon disuse. It is said that "an ounce of voluntary exercise is worth a ton of massage in the treatment of muscle atrophy" (25). Atrophy of the quadriceps extensor femoris is recorded in many cases of old fractures (26 a, b, c, d), etc. The early removal of all extravasated blood, liquid or clotted, from the articular cavity and from the peri articular tissues, limits the liability to the formation of adhesions, intra and extra-articular in nature,

By the employment of the open operative treatment, all the above mentioned obstacles to restoration of functional integrity can be more rapidly, more effectually overcome then by resorting to non-operative methods of treatment, separate or combined. The open method makes possible the removal from the joint cavity of detached bony fragments; it enables the operator to absolutely prevent the union of the fragments in a faulty position, that is, in a position mechanically interfering with the proper function of the joint; the tendency to adhesion of the upper patellar fragment to the femoral condyles is lessened. Increase in the dimensions of the patella following the open operative treatment is a rarity. Any increase in the dimensions of the patella is very liable to interfere with the adaptability of the patellar and femoral articular surfaces.

In fractures of the patella, as in other fractures, the closer the apposition of the fragments, the greater the probability of osseous union, of osseous repair, and consequently the more probable the restoration of functional and anatomical integrity. We know that the patella is a bone of feeble regenerative power, having only one periosteal surface, nevertheless, if the conditions requisite in other bones to obtain osseous union are secured in fractures of this bone, the same satisfactory results will be obtained.

Is operation at times contra-indicated? If so, when?

Under what conditions is the open operative treatment of doubtful propriety or not indicated?

In formulating indications and contra-indications for the open operative treatment of fractures of the patella, we give only slight consideration to age, sex and occupation. Individuals of either sex, at all periods of life and in all walks of society, need a good patella. However, in this, as in all other operations, the state of the tissues and of the viscera must not be ignored. Such anatomical and physiological deterioration of the tissues may be present, as to compel us to regretfully substitute inferior therapeutic measures to operations of election. The facts can be stated to the patient and he can select between functional integrity and functional

disability. Thiem (14) gives only two conditions as contra-indicating operations:

1. Absence of separation of the fragments. (No diastasis).

2. No loss of extension.

We do not advise the open operation:

1. In fractures of the patella that occur in a diabetic patient. The tissues of diabetics offer very little resistance to infection. They are tissues of impaired regenerative power. Nevertheless, an absolutely bad prognosis need not be given in these cases.

2. In fractures of the patella, occurring in patients having advanced tubercular disease.

3. In fracture of the patella, occurring in patients suffering from well developed cardiac, renal or hepatic disease.

4. In closed longitudiual fractures, with no displacement or with but slight lateral displacement.

In fractures of this type recovery almost invariably follows the combined use of such measures as massage, immobilization, full extension of leg on thigh, co-aptation of the fragments by retentive apparatus. "Osseous union is constantly obtained in longitudinal fractures of the patella," Macewen (27). This statement of Macewen admits of very few exceptions. Meyer (28) used non-operative treatment in all his cases of longitudinal fracture (the diagnosis in each case had been verified by X-rays). He obtained excellent functional recoveries in all of them.

5. Fractures of the patella in which the separation of the patellar fragments is so slight as to be barely detectable do not call for the open operative treatment. The same applies to fractures in which the injuries to the accessories patellar ligaments are unimportant.

6. Do not operate on patients who prefer to pass their lives partly disabled rather than to run the minimal dangers of an operation.

If operation is not always indicated, when is it indicated?

The popularity of the open methods is increasing. In careful and skillful hands, the dangers formerly incident to

their employment can now be said to be non-existent. Kocher himself has become an earnest advocate of the open operative treatment. In Von Bergmann's clinic, it is regarded since 1893 as the routine treatment for transverse fractures of the patella.

With increasing familiarity with the successive steps of the operation and a better appreciation of a judiciously carried out after treatment the results attending open operation are becoming more and more satisfactory.

For this very important addition to our surgical resourses, we are chiefly indebted to Lord Lister (29). Lucas-Championniere, one of the pioneers and also one of the most enthusiastic advocates of the open operative treatment for fractures of the patella, states that the first antiseptic operation of patellar suturing was performed by Cameron of Glasgow in 1877. Lister reported his first case in 1877. In 1883, he reported six more cases and then showed clearly that this new method of treatment was followed by perfect recovery, while previous to that time the condition had been looked upon as being, of necessity, followed by lameness. The adoption of this form of treatment, among German-speaking surgeons, is largely due to the efforts of Hačken-brusch, Trendelenburg and Koenig. Trendelenburg performed the first open operation in Germany in 1878. Among the French-speaking surgeons, the following are some of the ardent and most prominent supporters of the open operative treatment: Chaput, Berger, Lejars (Paris), Mayer, Lambotte (Brussels,) Vallas.(Lyons.)

It was Berger (Paris) who introduced cerclage.

Our analysis shows the following results:—

Miscellaneous methods, 33 cases, good results 32 cases, deaths, 1 from apoplexy.

Circumferential looping, 28 cases, good results 28 cases.

Apposition of the bony fragments and suturing of the soft tissues, 240 cases, good results, 230 cases, fair results 3 cases, In on case (30) though the fragments are 8½ cm. apart patient walks with but little difficulty.

Bone suturing, 809 cases, good results 730, not definitely

stated 50, moderately good 20, bad results 10, ankylosis 10, deaths 5. One of the patients had syphilis. One had diabetes mellitus. One infection (20a). Patient at time of accident was in bad general condition. One delirium tremens. One pneumonia (17). One pulmonrry embolism—19. One infection incident—20b to the operation.

It is our belief that, after ample preparation of the patient and of the operative field, the open operative treatment is positively indicated:

1. In all fresh fractures of the patella in the absence of contra-indications:

a. If the surroundings are favorable.

1. An aseptic operating room
2. Skilled surgeon, and assistants having "an aseptic conscience."
3. Dependable suture material, rubber gloves, etc.

b. If the patient is in the best possible condition.

c. If the fracture be of such a nature that a disabling defect is to be expected if one resorts to non-operative treatment.

d. When the bony fragments cannot be returned exactly by manipulation to their normal position and retained therein by retentive apparatus.

2a. In all compound fractures.

2b. In all comminuted fractures.

3. In all cases associated with considerable intra-articular effusion. The separation and tilting of the fragments is partly produced and partly maintained by the intra-articular effusion. be the latter hemorrhagic or inflammatory in nature.

4. In all cases associated with marked laceration of the peri articular tissues (ailerons, reserve extensor apparatus.) After fractures of the patella a great distention of the joint capsule is suggestive of peri-articular lacerations.

5. In all cases in which the inter-fragmentary space or diastasis has at any time exceeded 3 cm. This extent of separation cannot occur without laceration of the accessory patellar ligaments, without rupture of the overlying fibro-

periosteal tissues. Chaput (31), as a result of experiments on disecting-room subjects: came to the conclusion that the interposition between the fragments, of the prepatellar fibre-periosteal tissue does not occur if the diastasis fails to meet 3 cm.

6. In such fractures as are very liable to cause serious functional joint impairment; among such may be cited, cases in which bony fragments have escaped into the articular cavity (32 a. b.). Loose pieces of bone must be removed from the joint. Cases in which lower or upper fragment or both are completely inverted, or other such anomalous cases (33 a. c.).

7. In all fractures of the patella occuring in individuals upon whom at one time or other a leg or thigh amputation has been performed. To such individuals complete integrity of function in the remaining limb is of the highest importance.

8. In all fractures of the patella occurring in individuals having some permanent functional impairment of the opposite knee, as for instance, in a case reported by Mayer (33 b.). In early life, this patient's left knee had been resected. At the age of 35, she fractured her right patella. It was circumferentially looped by the open method. The coaptation was perfect. Result, "very satisfactory."

9. In all individuals, who, having sustained a partial amputation of the leg, can for flexion and extension of an artificial limb derive benefit from the preservation of the integritity of the extensor apparatus of the leg. In a case reported by Charters (24), the lower third of the leg had been removed. Two months later, while walking on crutches, patient fell and fractured the patella of the same limb. It was wired. Complete restoration of the knee-joint movements resulted.

10. In all bilateral fractures of the patella, be they of simultaneous or of successive occurance. In bilateral patellar fractures, it is reasonable to assume some risk in an attempt to transform an almost certainly dependent individual into a self-supporting one.

11 In all refractures, in the absence of contra-indications.

12. In old fractures of the patella, associated with marked impairment of function, if the functional loss, be dependent, wholly or partly, upon one or more of the following factors:

a. Long fibrous union.

b. Union in a faulty position, in a position that mechanically interferes with the proper function of the joint.

c. Absolute non-union.

d. Ankylosis of the upper patellar fragment to the femur (18, 23).

In the case reported by Erdmann (23), the quadriceps had contracted to such a degree that without operation the fragments could not have been brought into apposition.

e. Extensive non-repaired lacerations of the aponeuratic capsular and other fibrous tissues. These lacerations hinder restoration of function, increase the fragmentary diastasis.

The patella is only a part of the extensor apparatus of the leg; an important part, we admit, but not the sole part.

f. In all cases in which non-operative treatment has been followed by unsatisfactory results. In operating on old fractures of the patella it is imparative previous to the apposition of the fragments, that the fractured surfaces either be freshened or that a thin slice of bone be sawed off from each of the surfaces.

In old, as well as in all other fractures of the patella, we must in addition to repairing the tears in the soft tissues, endeavor to obtain osseous union of the fractured bone. This desideratum can be effected only by securing an exact, an accurate apposition of the freshened fractured surfaces. Consequent to the fracture and to the disability which it entails, there develops a retraction and an atrophy of the quadriceps extensor femoris. This muscular contraction, this muscular atrophy, is the most important cause of the great difficulty, a difficulty at times almost insurmountable, which we encounter in our endeavors to approximate, to

appose, to reunite the bony fragments. As easy as is the primary suture of a fractured patella, just as difficult can be the suture of an old fracture of the patella. It is convenient from the operative standpoint to classify old fractures of the patella into:

A. Those in which the fragments can be approximated with but little difficulty.

B. Those in which owing to the co-existing atrophy and unusual retraction of the quadriceps extensor femoris muscle, the approximation or rather the exact apposition of the fragments is a difficult feat to accomplish.

In cases in which the fragments can be approximated with but little difficulty, the operation will differ from that performed in recent fractures only by requiring two additional steps.

1st. The resection of the interfragmentary fibrous callus.

2nd. The freshening of the fractured surfaces. It is essential that the interfragmentary gap be overcome. To approximate the fractured surfaces pre-operative massage, position and traction, at times suffice. Z shaped incisions for lengthening of the quadriceps may have to be performed. If these measures fail to secure the relaxation, the lengthening of the quadriceps necessary to obliterate the interfragmentary gap, a plastic operation is indicated.

Which is the most universally applicable of the three types of operation that are now in vogue for the treatment of fractured patella?

The results obtained by the employment of any of these three dissimilar operations, osseous suture, cerclage, suture des ailerons, have been, when the operation was performed by competent hands, so gratifying, that it is embarrassing to suggest that one of them be abandoned. With each of these different methods, excellent functional and anatomical recoveries have been obtained. Osseous suture has given satisfactory results. Cerclage has secured excellent recoveries. As to the third method, it has been truthfully said, "in fractured patella absolutely perfect results from the

standpoint of contour, solidity and function have been obtained in a relatively short period, in cases in which all suturing was limited to the prepatellar and parapatellar fibrous tissues (Peyrot)" Whichever method be employed the repair of the soft parts is all important. The importance of this step is emphasized by most of the advocates of osseous suturing. Baerloober (17), Bockenheimer (19), Mikulicz (35), Oehlesker (36), Trendelenburg (37), and others, though they suture the bony fragments, never fail to supplement the latter step by suturing of the soft tissues.

In recent fractures of the patella I have abandoned osseous suturing. I have not yet seen a case of old fracture of this same bone, in which I felt that a good result could not be obtained without the employment of osseous suturing.

To my mind osseous suturing as a method of treatment for fractures of this bone has the following shortcomings:

A. It calls for special instruments.

B. The perforating instrument may break and the broken portion remain embedded in the patella. Annequin (38) reports a case of this nature. The drill broke and a fragment of it was left in the patella.

C. It is a procedure not usually applicable:

1. It is unsuited to the treatment of comminuted fractures.

2. It cannot be used to advantage in cases in which there is great inequality in the size of the fragments; one very large and one very small fragment. The lower or upper fragment may be that small that they could only afford an insufficient hold to the sutures. In cases of this description, many of the advocates of osseous suture resort to "Quenu's hemi-cerclage operation." In this operation, hemi-cerclage, the larger fragment is perforated transversely and the binding ligature is passed through this perforation, and either through the ligamentum patella or through the quadriceps extensor femoris, through the latter if the lower patellar fragment be perforated; through the former if the upper patellar fragment be the one perforated. Lon-

gitudinal suturing of the fragments, frequently owing to the unequal volume of the fragments or to their multiplicity proved to be a very difficult operation.

D. In cases of abnormally friable fractured patella, attempts to perforate the fragments, may provoke further splintering of the same (29). The slow elimination of splintered fragments prolong convalescence, retards recovery.

E. In cases of secondary operation, the fragments may have become so atrophic that they are incapable of holding the sutures.

F. The proper boring in the patella, from before backwards, of channels for the introduction of the sutures, demands experience. At times it is difficult of execution. The perforation of the bony fragments always complicates and always lengthens the operative procedure.

G. It is needless. It adds injury to injury. Equally good if not better results are obtained by less difficult and less laborious methods.

Open circumferential looping was introduced by Berger (40) of Paris. It is employed by the advocates of osseous suture of fractured patella. In cases:

1. In which one of the fragments is too small, to admit of perforation previous to the introduction of the silver wire, steel wire, or other employed suture material.

2. In which one of the fragments is too small to be directly sutured to the larger fragment.

3. In fractures with many fragments or with comminution.

4. In cases of abnormal friability of the patella.

It has been and is still extensively employed in the treatment of fractured patella, as (a) a supplementary measure to osseous suture; (b) as a preliminary, or as a supplementary measure to suture of the prepatellar and parapatellar tissues. By many it is employed as the only operative step in the treatment of fractures of the patella.

The advantages of circumferential looping or cerclage are (a) that its employment inflicts no additional traumatism upon the periosteal and osseous tissues. The osseus and

cartilaginous surfaces are uninjured by the passing of the circumferential ligature. It respects the skeleton. (b) That the ligature material, which loops the patella, is totally extra-articular. It is introduced and embedded in the peripatellar tissues. Should a metallic ligature, such as silver wire, be used and its presence subsequently cause real or imaginary disturbances, the removal of the real or supposed offending agent can easily be effected without opening the articulation. It respects the articulation. (c). The method is of easy and of rapid execution. The maneuvers incident to its introduction are extra-articular. It can be used as a preliminary or as a supplementary step to any of the various open operative methods in vogue. It no doubt contributes to the exact coaptation of the bony fragments. As far as it goes this procedure (cerclage) is safe, logical and serviceable. No special instruments are required for its performance. To our eyes circumferential looping as a method of treatment, has the shortcoming of insufficiency. We use cerclage as a preliminary or as a supplementary measure to suture of the prepatellar and parapatellar tissues.

Study of the literature of the subject, surgical experience and clinical observation have led me to consider that the following are the most universally applicable operative steps to be conjointly employed in the treatment of such fractures of the patella as demand operative intervention.

1. The torn prepatellar fibro-periosteal sutures must be carefully sutured. E. Wyllis Andrews, instead of uniting these torn prepatellar tissues end to end, sutures them in such a way that they overlap one another, that is, they are imbricated one within the other, "shingled as it were."

2. All tears in the parapatellar tissues must be sewed up. It is imperative that all capsular rents be carefully repaired. The suturing of the peri- and parapatellar soft tissues has the approval of all clinicians.

3. To contribute to the maintenance in apposition of the fragments, the patella is circumferentially looped by the ligature passed close to its periphery. This ligature is

passed so as to be close to the periphery of the bone, so as to hug it as it were. It is inserted in such a way that it lies embedded in the substance of both quadriceps tendon and ligamentum patella midway between their arterior and posterior surfaces. If deemed necessary two such looping ligatures may be used. These different maneuvers are all extra-articular. In some comminuted fractures in which the interfragmentary diastasis was slight and in which the prepatellar tissues were practically untorn, I have often limited the operative procedure to looping the patellar fragments and to fortifying the prepatellar tissues with a few V-shaped kangaroo tendon sutures, not exposing the articular surfaces to inspection.

Should one, if he be an advocate of the open operative treatment, operate on the day or on the morrow, of the infliction of the injury, or should he wait until the soft tissues have somewhat recovered from the immediate effects of the traumatism?

In all compound fractures of the patella the time allowed to elapse between the injury and the operative intervention should be the shortest consistent with the modern surgical preparation of the operative field.

In compound fractures of the patella our practice is to have the patient conveyed at once to a well-equipped hospital. Operation is performed soon after admission to the hospital.

The wisdom of operating immediately in compound fractures is, I believe, unquestioned. It is only in simple or subcutaneous fractures that there is great divergence of opinion among surgeons as to the elective time of operation; not only that, but many individual operators do not, as to the time-interval between injury and operation, observe a uniform practice. In subcutaneous fractures ample time should always be taken for the preparation of the patient and of the surroundings for operation.

It has been our practice in fresh subcutaneous fractures of the patella to defer operation for from 3 to 5 days after the injury, being guided somewhat by the patient's general

condition and also by the evidences of local trauma. The congestion and inflammatory exudate consecutive to the injury have usually by this time begun to retrogress. Our results having been satisfactory we are averse to change.

The time interval between the day of injury and the day of operation enables the surgeon to become better acquainted with the patient's general condition, to better familiarize himself with the type of fracture which confronts him, and to better aseptisize his operative field. Owing to the wrinkled, thickened nature of the skin of the front of the knee, its surgical purification presents some difficulty.

Should the operative field be rendered bloodless by the employment of an Esmarch bandage? What should be the nature of the anesthetic employed? Local, lumbar or general anesthesia?

As a prophylactic measure against hemorrhage, or as an aid to secure a bloodless operative field, it is rare for surgeons to make use of the Esmarch bandage, or band, in their operations for fractured patellas. Thienger (41) and Ochlecker (36) employ it. Its general non-use is evidence enough that clinicians do not consider it of any great assistance in these cases.

The Esmarch's band, applied according to the ordinary rule, interferes, while in position, with the normal elasticity of individual muscles and of muscle groups, may hinder the bringing down of the extensor muscles of the thigh, and consequently render difficult the approximation of the patellar fragments. The oozing into the articulation and tissues that follow its use, is another undesirable feature attending its employment. We know of no valid reason for its preliminary use in operations for fractured patella.

Chaput (31), Lotheisen (26c), and Stimson (13) have each with success operated fractured patella under local anesthesia. Chaput and Stimson used cocaine; Lotheisen employed Schleich's infiltration method. Ranzi (42) in one case resorted to anesthesia obtained by lumbar puncture and subarachnoid injection. Mikulicz in several cases used lumbar

spinal anesthesia. Mayer (33b) also resorted to lumbar anesthesia.

In Chicago, in operations of this nature, in the absence of contraindications, we almost invariably use genral anesthesia. General anesthesia enables the operator to more thoroughly protect the patient from pain, to better guard against accidental septic contamination, to secure a more complete muscular relaxation, to proceed more deliberately, to modify his procedure so as to better adopt it to the needs of the case at hand.

Perusal of the literature shows that in these operations the employment of general anesthesia is in accord with the practice of European and American surgical centers.

By what type of incision is the operator best enabled to perform the repair work which he deems appropriate and necessary?

Large, methodically carried out incisions, are infinitely less dangerous than small openings. The latter fail to fully expose the operative field, do not enable the operator to satisfactorily cleanse the joint, and do not facilitate the careful repair of the lateral capsular and aponeurotic tears.

The single median vertical incision, unless it is made very long, does not admit of easy manipulation of the fragments. The freshening of the old cicatrized surfaces on both the upper and lower fragments either with saw or chisel, is not easily accomplished through it; it does not admit of easy cleaning of the joint. During kneeling the scar is in the line of pressure, and therefore, remains tender for an indefinite time. The H-shaped incision has objections. The scar lies directly across the patella.

In operating the fractured patella, I generally employ for the exposure of the parts a flap having its convexity downwards. The incision commences on a level with the upper margin of the patella, about one inch to one side, from here it passes downwards to a point a little below the apex of the bone, from where it is continued across the limb and carried to a point corresponding to that from which it started. This incision does not interfere in any way with

healing (W. Jacobson and Rowland, 43). It is thought that an incision with the convexity downwards, better secures the vitality of the flap than one with the convexity upwards.

These convex incisions afford a good exposure of the parts, facilitate the removal of intra and extra-articular exudates and extravasates, give good access to the bony fragments and allow of careful repair of all capsular pre- and parapatellar tears. If drainage of the peri articular tissues is necessary, it is easily secured. With a longitudinal incision, drainage is somewhat difficult.

Is it advisable in these cases to irrigate the articulation; if so, with what fluid, an antiseptic solution, irritating or non-irritating, or merely a bland, non-irritating cleansing agent, such as normal salt solution, or is the mere sponging out from the synovial cavity of the extravasated liquid and clotted blood, productive of the most satisfactory results?

Joint irrigation with irritating antiseptics, such as carbolic acid and bichloride of mercury, we condemn. Any agent acting as an irritant upon joint endothelium, lowers its resistance to infection, predisposes it to inflammation. In flushings or irrigations of the joint cavities with normal salt solution, which solution is in itself unobjectionable, we fail to see much value. Of what advantage can it be to waterlog the tissues?

In operations interesting the pleural cavity, we do not irrigate that chamber to secure the outflow of any effusion collected in the pleural space. To accomplish this, reliance is placed upon the elasticity of the chest-wall, the inpiratory expansion of the lung, the ascent of the diaphragm, and the use of the drainage tube. In operations upon the peritoneal cavity, we do not flush this space to remove contained exudates and extravasates; we simply gently swab and mop.

In arthrotomy for fractured patella we do not irrigate either the joint or the surrounding tissues. All liquid and clotted blood are removed by gauze swabs mounted on artery forceps. The swabbing is done with great gentleness, the

object being to minimize the trauma inflicted. Scrupulous care is taken to keep the fingers out of the articular cavity. In formulating our conclusion we repeat that though we are aware that many clinicians, for instance Rauzi, etc., prefer irrigation of the articular cavity to sponging of the articulation, we urge the discarding of joint irrigation and firmly advise dry sponging of the joint, Dry sponging for the removal of liquid and clotted blood from the articular cavity, is in these cases productive of more satisfactory results. The sub-quadricepital synovial cul-de sac is not to be overlooked, and all liquid and clotted blood therein contained must be removed.

Should non-absorbable or absorbable suture material be used? Are there any valid reasons for discarding non-absorbable suture material?

We refer here only to buried or irremovable suture material. If the suture material be so inserted as to be removable, once organic reunion of the divided tissues has taken place, it matters little (owing to the removability of the suture material) whether absorbable or non-absorbable material be employed.

In fractures of the patella it is not necessary that the fragments be held together with great firmness. Mere apposition is ample. Forcible tying of metallic sutures to some extent defeats its own purpose, as a sature drawn tight can cause in a bone, as well as in other tissues, a local pressure necrosis and absorption.

We consider it unwise to abandon non-absorbable suture material permanently in the articulation or in the peri-articular tissues, because:

a. Clinical observation has shown that metallic sutures frequently irritate the tissues (19), lower their vitality, increase chances of infection, and may require subsequent removal. In longitudinal suturing of bone, the twisted ends of the suture being almost immediately subcutaneous, kneeling is painful. To avoid this post-operative annoyance, some operators perform transverse suturing of the patella.

b. Metallic sutures may become loosened, may break,

and fragments escape into the articular cavity by which they are poorly tolerated.

c. The embedding of wire sutures in the patella does not add to the solidity of the patella.

d. Non-absorbable sutures, be they inserted transversely or sagitally, cannot be considered permanent splints.

Von Brunn (44), as a result of his investigations came to the following conclusions:

1. Silver wire has not sufficient resistance to guarantee bony union of the fragments.

2. Even when the fragments are healed together the wire may break.

3. Parts of the broken wire may wander into the articutation, or into the peri-articular tissues and can excite disturbances at point of lodgment. It has been claimed by Thiem, etc., that metallic sutures suggestively hinder, in some patients, the cure of the subjective troubles.

Shall completely detached bony fragments be removed? If completely detached bony fragments be present, their removal is one of the essential steps of the operation. It has been repeatedly done, and satisfactory results have ensued. The escape into the articulation of completely detached patellar fragments and their non-removal therefrom, leads to all the functional and anatomical articular disturbances inseparably associated with mobile foreign joint bodies.

Shall the peri-articular tissues be drained? In order to allow the escape of excessive wound secretions, many clinicians, Hackenbrusch and others, though they did not resort to tube or gauze drainage of the peri-articular tissues, always left the ends of the skin incision open. It did not unfavorably influence the ultimate results. In clean cases, subcutaneous drainage is needless. Its employment serves no useful purpose. It retards the healing of the skin wound. Why complicate an operative procedure by a useless step?

Shall the articular cavity be drained? In simple fractures, no. In compound fractures, yes. Articular drainage should be discontinued as soon as the surgeon's fears as to the development of a supperative arthritis have been dispelled.

The modern tendency is to employ drainage only in the presence of absolute indications; and to discard it, when in doubt, as to its utility in the case at hand. When unneeded drainage instead of contributing to rapid aseptic healing, has a tendency to act as an irritant. In the etiology of inflammation irritants are considered predisposing and exciting factors.

What should be the nature and the duration of the post-operative treatment? As yet the practice of the different operators as to nature and duration of post-operative treatment is most dissimilar. We proceed as follows: Immediately after the operative procedure and the application of the protective dressing to the wound and while the patient is still anesthetized moulded plaster of Paris splint is applied to the injured extremity. This splint should be amply padded, should cover the posterior and lateral surfaces of the limb and should extend from about 10cm. above the external malleolus to the gluteal fold. The object of this splint is to immobilize the extremity in the position of full extension of the leg on the thigh, and of slight flexion of the thigh on the abdomen. The slight flexion of the thigh on the pelvis has for its purpose the relaxation of the rectus femoris muccle. During the patient's confinement to bed attention must be given to the heal and to the toes. So as to avoid the development of a pressure-sore upon the former, the heel should be protected by a doughnut pad or other means. By the use of a "cradle" the toes will not be subjected to the weight of the bedclothes and talipes decubitus will not ensue. In the absence of a marked elevation of temperature, of intense pain, of saturation of the dressings, the protective gauze dressings on the joint remain undisturbed for from 10 to 15 days; then, if indicated, the removable sutures are ablated. The immobilizing splint is kept in position for about a month.

As to the duration of immobilization, the practice of the various operators is far from being in accord.

The first motions of the patella should be lateral motions. We do not begin flexion of the leg upon the thigh

previous to the expiration of one month from the day of the operation. The first attempts at flexion should be cautiously made. With use the range of motion gradually increases; in many cases the restoration of joint function is complete. When flexion to a right angle has been recovered, the patient is discharged from further observation.

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If a man intends to make a success in the medical line he should not limit himself to his text books alone, but should attempt to broaden his mind as to the ways of the world, and should look a little further than the walls of his school and acquaint himself with humanity in general.

The study of human nature and the acquiring of the

ability to judge people, their ways and whims, and the manner of handling them in their varying moods, comprises one of the greatest assets of a successful modern business or professional man, and what better chances can a young man wish for the study of human nature than the clinics and surroundings of a medical school? It is one of the greatest fields of observation that can be found. The secrets of the innermost workings of families, homes and people in general are laid bare to the young medical man, and all he must do is to sit up and listen, and formulate ideas and means to combat with such incidences of life to the best advantage, both medically and socially, and in this way not only benefit humanity but raise himself in the estimation of the world as a fair minded man.

But how many graduates of today have burdened themselves during their school years with this study of human nature? Records of the successful men who graduate from a medical school alone can tell. Many men of today are learned and efficient in as far as medical science is concerned, but are living, and only living; why? Just for the simple reason that they do not understand humanity and do not try to study it. Consequently the American public passes them over for the man who knows no more than he and probably less, as far as medical science is concerned, but who can judge their whims and ways, and govern himself accordingly.

Success in this life depends upon how much confidence you have in yourself and how much confidence you make others put in you. If a man likes you and thinks you are fair, square and broad-minded, he will not hang a millstone around your neck but will do all he can to aid you, and this is an advertisement, and advertising is the road to financial success and fame. But you cannot get this advertising unless you get the confidence of the people, and you cannot get the confidence of the people in the medical line unless you understand human nature; so why not study it while we are at school, for when we get out we will be ready and fit for our battle for life and fame? P. G. R.

WEST SIDE HOSPITAL EXAM. FOR INTERNESHIPS.

As previously announced the West Side Hospital held the examination for interneships on Feb. 3 and 4, 1910. The following schedule was carried out:

Thursday, Feb. 3, 1910—Anatomy, Dr. Davies; Physiology and Chemistry, Dr. Pigall; Pathology, Dr. Weiner; Eye and Ear, Dr. Noble.

Friday, Feb. 4, 1910—Medicine, Dr. Callaway; Surgery, Dr. Conley; Gynecology and Obstetrics, Dr. Hartman.

The following notice was posted on the bulletin board on Wednesday, February 8:

"The following students have successfully passed the interneship examination at the West Side Hospital:

1, G. G. Thompson; 2, R. W. McNealy; 3, S. A. Smith; 4, H. R. Sword; 5, F. L. Stone; 6, W. I. Firey: 7, F. Nickel; 8, F. Conroy; 9, Wm. D. Schafer; 10, J. C. Rogers; 11, C. P. McGarry; 12, P. A. Soelberg; 13, W. T. Rothwell; 14, J. M. Kara; 15, J. E. Walsh.

S. G. WEST,
Chairman Exam. Comm."

The questions on the various subjects were:

ANATOMY.

I. In a cross-section of the thorax at the 8th dorsal vertebra, what structures would be cut? Name them from without inward.

II. (a) Describe the knee-joint.

(b) Give the gross and minute anatomy of the urinary bladder.

III. Give origin, insertion, innervation and function of the following muscles: 1. Masseter. 2. Platysma myoides. 3. Biceps. 4. Latissimus dorsi. 5. Gastrocnemius. 6. Extensor femoris.

IV. Give the circulation. beginning at left ventricle.

V. (a) Give anatomy of covering of brain.

(b) What is a neurone?

(c) What is the sarcolemma?

CHEMISTRY AND PHYSIOLOGY.

I Name the digestive ferments.

II. Give the physiology of three principal methods of excretion.

III. Give the functions of the liver.

IV. Describe the mechanism of sensation.

V. (e) Give Boyle's Law.

(b) Complete equation, 2 Na OH + $H_2 SO_4$ = ?

(c) Give a test for sugar in urine and the chemical reaction.

PATHOLOGY.

I. Name the non-pus-producing micro-organisms which create diseases in the human race common to our climate. Also describe *mode of infection* and *symptoms produced.*

II. General description of a tuberculous joint.

III. Describe typhoid ulcer of colon and ileum and mode of repair.

IV. Describe fatty degeneration.

V. Describe carcinoma microscopically and macroscopically.

EYE AND EAR.

I. Give anatomy of ear from without inward.

II. Give anatomy of the eyeball.

III. What is Meniere's Disease?

IV. Define choroidites and give treatment.

V. What is compaired astigmatism?

MEDICINE.

I. Give symptoms and prophylaxis of labor pneumonia.

II. Give symptoms and treatment of plumbism.

III. Give the symptoms and treatment of uremia.

IV. Etiology and treatment of fatty degeneration.

V. Outline treatment for chronic constipation.

SURGERY.

I. Surgery of thyroid and the parathyroid glands.

II. Diagnosis and treatment of dislocation of shoulder.

III. Give the treatment of surgical shock.

IV. Give the treatment of hemorrhage.

V. Give the diagnosis and treatment of septicemia.

GYNECOLOGY AND OBSTETRICS.

I. Symptoms in detail and treatment before and after rupture of extra-uterine pregnancy.

II. Management and treatment of shoulder presentation.

III. Name the tumors of the ovary and give percentage of each kind.

IV. Classify inflammatory diseases of the Fallopian tubes and give symptoms of an encysted pus-tube.

V. Give etiology, symptomatology and differential diagnosis of carcinoma of the breast.

SENIOR NOTES.

McGarry—"In giving the important obstetrical measurements, Dr. Rohrlock, would you mention those of the fetal pelvis?

Loomis (in an undertone)—"Which one's, external or internal?"

The following passed successfully the competitive examination held by the University Hospital for internes:

1, McNealy, 80.2, 2, Nichols, 73.5; 3, Grove, 69.8; 4, Smith, 69.6; 5, Loomis, 68.5; 6, Bradley, 65.5; 7, Rogers, 65.3.

Dr. Quine was 63 years old on Feb. 9th, and celebrated the occasion by telling us a nice, long story before his lecture on medicine, and by the way, it was not one of those stories he learned from Dr. King.

The month of February finds the Seniors located during the surgery hours high up among the angels, listening intently to Dr. Davison, who is giving an excellent course on surgery of the lower abdomen.

The present Juniors have commenced their review quiz class for the Cook County Hospital examination to be held in 1911. From one point of view it is a good plan, they having a much longer time to prepare in, but it is a well-known fact that by next January, 1911, the sight of paper will so nauseate them that each will think his own a case of intestinal obstruction.

We are glad to say that our Senior class will be repre-

sented pretty strongly by the Illio this year, about 75 per cent of the students having sent in pictures for publication.

Nearly all the seniors have now had their individual photos taken for the large class picture which will soon adorn its alotted space in the school corridor.

Loomis and Bradley show up occasionally for medicine in their white "sailor" trousers which they donned Feb. 1st, when they embarked in the University Hospital.

On Sunday evening, Jan. 23, Dr. Dyas and the Senior Male Quartette, composed of L. W. Cary, W. B. Lewis, F. Thomas, and E. W. White, were royally entertained by Dr. and Mrs. Packard at their home on the South Side.

After a sumptuous supper the evening was spent in singing by the quartette and "reminiscences" by Dr. Dyas.

All report a very pleasant time and unanimously vote Dr. and Mrs. Packard as "excellent entertainers."

Miss J. Sherman, Beaver Dam, Wis., visited the college on February 4th, with the class president, Mr. P. M. Currer.

Mr. B. Kunny is at present busily engaged in Dr. F. A. Fischer's office.

Sometime ago Mr. A. A. Le Beau accidentally got some ether into his right eye and now is experiencing considerable trouble with it. We hope that the affliction is of short duration and that he will be able to remove the shield in a few days.

A great number of the students of the college went down to the Hull House on Thursday evening, Feb. 10, to see a wrestling match between S. A. Kleger of the Freshman class and A. E. Gage of the Sophomore class. Kleger was scheduled to throw Gage twice in 15 minutes, but failed to do so. Before the match a game of basket ball was played between the Hull House team and P. & S. team, which resulted in favor of the Hull House team.

The following was handed to the editor:

"A little news item from the west, from a place which

Mr. R. J. Miller visited last summer, brings the fact that a young lady, Miss G. W., whom he has been corresponding with, is wearing a solitaire, and she gives the credit to a medical student in Chicago, but does not mention any name."

Dr. Smith (in medical quiz)—"What treatment would you give in Nephritis?"

Mr. F. Thomas—"Compound Jalap or Japalac powder. Also hot air treatment."

W. D. Murfin has been suffering from corneal ulcer, and has been treated by Dr. Chas. Clement.

During the latter week in January, when the dental profession gave its great display at the C. C. D. S. building, about one half of our college underwent a peculiar metamorphosis, in which each student was modified for ten minutes from a modest unassuming Freshman or Sophomore medic, to a polished, dignified practicing dentist. During the ten minutes he received numerous samples of dental antiseptics and tooth powders, and after having jammed them deep into his overcoat pockets said good bye to the dental profession and was once more the happy and wise medic.

The following members of the Senior class are busily at work as internes in hospitals in the city or suburbs:

Chicago Hospital—W. J. Siegler. W. C. Meacham, D. M. O'Donnel.

St. Anne's Hospital—W. F. Glazier, R. L. Borchert.

Lake Side Hospital—B. F. Largent, J. H. Valency.

Oak Park Hospital—P. M. Le Beau, J. C. Gillespie.

Lakeview Hospital—Jno. F. Davis.

St. Mary's Hospital—F. G. Ostrowski, E. F. Czeslawski, R. R. Heim, A. A. Le Beau, A. F. Benson, F. N. Gaggin.

University Hospital—W. C. McKee, W. H. Bradley, W. C. Loomis, A. F. Grove, R. C. McElvain.

Park Avenue Hospital—W. B. Lewis, L. A. Pulley.

Augustana Hospital—B. J. Voigt.

Special work at Augustana Hospital—C. M. Reyes, G. Santos, J. P. Bantug.

Chicago Home for Destitute Cripples—S. Lee Gabby.

Special work in Pathology Michael Reese Hospital-Daniel De la Paz.

Special work in Bacteriology Michael Reese Hospital-Manuel D. Foronda.

St. Bernard's Hospital—A. G. Johnson.

Robt. Burns Hospital—G. E. Johnson.

JUNIOR NOTES.

Harrison has stolen the reputation for histrionic talent, which Boyden held for two years.

Who said the Senior editor is troubled with a sense of modesty? His most philosophical articles would be known as the work of his master mind, even if his signature did not adorn his every utterance.

Nicholas Murray Doyle ate his first seven dollar dinner last Saturday.

Thursday night our friend Baccus introduced the Novelty Dancing Act at Hull House to an appreciative audiance.

Kistinger entertained a West Side Hospital nurse Thursday night. Did she say "yes?"

What made Boone and O'Brien leave the box at the theatre Sunday night?

One of the exultant candidates for the honorary fraternity informs the writer that the ten Junior members of that fraternity have been picked by fonr Senior students, who came into our class-room and heard twelve picked Juniors recite.

The members of the Junior class, if placed on their honor, could without doubt pick the brightest among their number for this honor, and prevent such an occurrance as a student making a place at the County Hospital aud is not represented on this fraternity. Currer. don't they have records in the office?

The Junior schedule presents a more congenial appearance since the addition of hygiene and gynecology.

Anxious inquirer—Georgie's ankylosed knee has improved under the "Beer Treatment" instituted by "Biddie" and "Cornie."

The four students in the top row right, must be poor entertainers as the big four sought new quarters after two days.

The Junior class must be improving greatly as many more made Dr. Earle's Honor Roll than made a place with Dr. Yarros.

Among the many new innovations may be mentioned the following:

Miss G. D. Franke's new bronze colored shoes.

Miss Swartz, turban effect.

Dr. Furno, M. U. T., green spring hat.

Hugh Duffy's young mustache.

Lapham's new linen collar.

Bishkow, who said you could play Norwegian whist?

Some innocent "D. J." asked us if Dr. Cook, who is lecturing in dental surgery, "is he of North Pole fame?"

Without any advance information we stake our reputation that the name of the Senior editor appears at least twice in this issue. Are we right?

Hess was an unwilling patient in Dr. Ricardo's clinic last Thursday.

Dr. Carl Beck is giving a fine surgical clinic at the County Hospital from 10-12 a. m. Saturday.

We were all glad to see Dr. Dyas in the pit Saturday.

The Juniors would appreciate several gentlemen (?) very much more if they would stop some of their constant rough-housing. This ought to be left with the first two years. We suggest that you only have a year left to cover four years of medicine. Throwing cigarettes and paper-wads into the pit is dangerous as well as babyish.

PUSEY'S DERMATOLOGICAL KIDS.

AIR—Rings on her fingers.

For she had ringworms on her fingers.
Scabies on her toes,
Pediculi in her eye-brows.
And Lupus in her nose,
Acne-rosacea, Erythema multifor—me
Maculi, papule, vesicle, pustule, bust—
O-Crust.

Hector Knott, of the Junior class, and Miss Kathryn Shunk, daughter of Mr. and Mrs. Frank Shunk, of Valparaiso, Ind., were married Tuesday afternoon, February 8th, 1910, at the bride's home.

A TOO TONIC AFFAIR.

(Teutonic.)

Herr Donner Blitzen was so weak
When New Year rolled around,
He found that he could hardly walk
Or even stand his ground.

"You need a tonic" Sullivan said,
"Get 'Saunder's Quick Delight,'
Take one pill after breakfast
And a couple pills at night."

Jones recommended Carter's Fluid,
Czaja spoke for Bishkow's dope,
Brown advised her tepid baths
With Maher's new Life soap.

Lapham was sure that alcohol
Externally applied
Would do him good—but oh! he took
The alcohol inside!

And so he kept absorbing things
For his imagined ill,
Till he got strong from working hard
To pay the druggists' bills.

T. G.

SOPHOMORE NOTES.

Dr. Dreyer, (In P. Chem., lecturing on milk)—"During lactation the milk from a woman usually amounts to one liter, although it sometimes reaches a liter and a half. But a good milk cow——"

Dr. Nichol (Path. quiz)—"Pedott, how many nuclei has the polynuclear neutrophile?"

Pedott—"Oh, about a few."

Dr. Dreyer (in P. Chem.)—"Crooks, what do you understand when Pedott speaks about an ester?"

Crooks—"I-——"

Dr. Dryer—"Do you think he means a girl's name?"

Dr. Dreyer (In physiology. Mr. Boyer had been called to the front to demonstrate to the class the use of the spirometer)—"I'm not selecting Mr. Boyer because he's a good blower."

SAYINGS OF FAMOUS MEN.

Mr. White:—"Which does not amount to a button." (Is it possible that this button could be spelled d—n).

Mr. Ramb:—"What section am I in in Physiology?"

Dr. Dreyer:—"C D section; now do any of the other children in the class wish to know where they belong?

Our friend O'Malley whose brilliant research work last year resulted in the discovery of the operculum of the amoeba, has recently made some startling discoveries concerning the enervation of the salivary glands. Unfortunately, however, Dr. Dreyer could not quite catch the point of O'Malley's explanation and it is greatly to be feared that Dr. Dreyer did not appreciate the brilliancy of O'Malley's discoveries.

NEW ACTIVITY OF CHIEF OF POLICE.

In a recent raid upon the Y. M. C. A. room, the majority of the Sophomore class narrowly escaped being taken into custody. As it happened the force of police was inadequate and all escaped.

It seems that the place raided has for some time been

under suspicion. In fact it has already been raided several times. Let us hope that this will put an end to such atrocities as playing the piano.

ANVIL CHORUS.

(From El Knockador.)

In an article in the October PLEXUS our friend the D. J. correspondent signed himself: "Pills, Ex-Supt. of the Poison Works." After reading some of his recent works we are prone to believe he must have meant Ex-Supt. of Sunday School. We beg to respectfully direct his attention to the fact that medical missionaries are in great demand as are also teachers of Histology. (Oh, you Amoeba.)

FRESHMAN NOTES.

B. H. Millett, who has been indisposed for some time, is again attending classes.

T. D. Burger, captain of the P. & S. basket ball team, had the misfortune to fracture a bone of the ankle joint during a recent game, but by the aid of crutches managed to attend classes.

Miss Seed, of Danville, Ill., was entertained recently by H. S. Seiwell.

Our friend, Dr. Horstman, of the histological department, is again on duty after an attack of catarrhal appendicitis.

The inovation extended to J. W. Aldrich and L. H. Simmons on their first appearance to class was great. It is to the efforts of Dr. B. Fantus, Norman Sullivan and Thos. Gratzek, Juniors, that we owe their presence among us, in restoring respiration after a practically complete asphyxiation.

The class is pleased to note the much improved condition of Mrs. H. O. White.

"If you can't crib without getting red behind the ears, don't crib."

The old saying "that best of friends must part," holds good in the case of the biology course just closed. Dr. Fisher gave a most satisfactory and practical course in medical biology. the substance of which will be applicable all through the four years' work—matter that will perhaps not be explained again. We appreciate the efforts of Dr. Fisher and extend our best wishes for his future success.

Major has always been a friend of the present Freshman class—he feels that the best is none too good for us. For the biology lab. he supplied gold fish for dissection at $35.00 per fish.

The editorial department has been working over time in an effort to learn why Vice President Brown was so ex tremely interested in an item regarding a faternity pin worn by one of our ladies. No clews have been found.

By the way, Miss Goodrich has not yet come across with that box of candy promised as a bribe for keeping quiet regarding certain items.

A correction to last month's item regarding the Smith Brothers (not the "cough drop boys," but the "candy kid"), is made by Mr. George in stating that Mr. C. B. is not so much interested in Miss McCann as in Miss Lukas. Are there any further corrections?

Spoke before they thought:

Queenie—"Coccyx articulates with the sternum."

Ofner—"Clavicle articulates with the femur."

McClelland—"The purpose of the gall bladder is to secrete gall stones."

The paramount questions among the D. J.'s are, who made the "touch," and who "squealed?" Neither were very foxy. The question in the office was who had the questions and who didn't? The only fair way for every one was to do as was done, hold another exam.

In closing last semister, class work in bacteriology ceased. Dr. Gehrmann may feel that he has the whole class as friends. The course as conducted by this professor was exceedingly satisfactory.

Dr. Fischer, who has been associated with Prof. Gehrman for several years, is now instructor of one laboratory section. Dr. Fischer is, and always has been, exceeding popular with the students under him. Dr. Solomon is to be at his old post.

Brother Peaty, who has been on the sick list, is reported on the mend.

A smart little chemistry rough
While mixing a compound of stuff,
Dropped a match in a vial,
And after a while,
They found two teeth and a cuff.

A FRESHMAN GIRL.

The above item probably has reference to the D. J. who tried to pour water into sulphuric acid and watching the reaction by holding an organ of vision over the mouth of the test tube.—(D. J. Editor).

BLUE MONDAY'S SCHEDULE.

A college lad feels mighty glad
When all runs smoothly along,
But it's not that way on blue Monday,
For everything goes dead wrong.

You get up late and have to wait
For street cars, to your sorrow;
When you appear these words you hear: (Anatomy)
"We'll finish this bone tomorrow."

You keep your seat prepared to meet
The next axamination;
He asks you what you just forgot (Bacteriology)
About petri-dish contamination.

You take your scope and with high hope
That new colonies will be thinner;
Your tubes are gone, your cultures wrong, (Bact.
And then it's time for dinner. Lab.)

With hagard looks you return to books
And work just like a beaver;

Your head does ache, there's a quiz to take
On the germs of maleria fever. (Noon)

'Tis nearly one, your task is done,
You'll get a "ten" straightway;
The noise now dies, Mr. Browne replies: (Biology)
"Dr. Fisher won't be here today."

In utter dispair you now prepare
A slide of the human spleen,
You overstain and in words profane (Hist. Lab.)
Say things you don't quite mean.

I'd like to be a big M. D.
Yet I think, when Monday closes:
"When you try for success at P. & S.
Each day can't be strewn with roses."

GOLBECK '13.

Y. M. C. A. NOTES

AMBITION AND ASPIRATION.

In the estimation of a great many people, ambition is a commendable thing. It is put down to the credit of a man almost always, when he announces his determination to gain some high place We say of the clerk in the store, of the student in the college, of the cadet in the military academy, of the apprentice in the shop, if he has no ambition he will never amount to very much. But the theory which is really approved in all such speech is not ambition, but aspiration.

Aspiration is always to be encouraged, for aspiration is a longing desire, eager even to panting, after something for his own sake, and because it is good in itself to have it. Ambition carries with it something of the taint of solicitation, of intrigue and flattery, of the bad political method which gave the word birth.

Aspiration fixes the eye on fitness, and is often content if it can be only qualified for a place; whether it has the place or not. Ambition wants the place without any regard to qualification, and resorts to all sorts of means to get it. Aspiration is considerate, tender; it will not jostle others in

its upward struggles. Ambition does not care how many others may be displaced and hurt, if by such means its own objects can be accomplished. Aspiration includes the virtues, for the very idea of the word keeps one up in the ranges of the pure air. Ambition strides right on, no matter how many pure things and true things are trampled under foot. Aspiration concerns ideas, excellencies, rather than places and honors. Ambition concern places and honors and gains chiefly. This is what makes ambition the dangerous passion it is. When the mind is fully possessed with the notion that a certain office, or preferment, or a certain form of power, must be obtained at all risks—just what ambition is when most highly excited—then everything is liable to be swept into the current and carried along with it—principles, truth, purity, fidelity, goodness, everything together.

A. F. Benson.

IN MEMORIAM.

Died on January 22nd, 1910 at her home, 1841 North 40th Court, Anna G. Morrissey, graduate of the West Side Hospital Training School for Nurses, class 1898, after an illness of one week.

Miss Morrissey was nursing her mother when she was taken ill with pneumonia. Every means known to medical science was made to save her life; doctors and nurses were in constant attendance day and night, but without avail.

The news of her death cast a shadow over the West Side and University hospitals, and amongst the medical and nursing profession and the students of the College of Physicians and Surgeons, where she was widely known. A friend to everyone, especially to the poor and needy, her death will be felt for many a day.

The doctors of University Hospital and sister nurses will erect a monument in her honor.

At a special meeting of the Alumnæ Association of the West Side Hospital Training School for Nurses, the following resolutions were adopted:

WHEREAS, God in His infinite wisdom has taken unto Himself, after one week's illness, our beloved sister and president, therefore be it

Resolved, That this Alumnæ Association has lost one of its brightest and most efficient members, one always interested in every good work, with ready smile and words of cheer and comfort. We feel that her life was an example of womanly courage and fidelity; and it can be truly said of her: "None knew her but to love her, none name her but to praise," and be it further

Resolved, That we express to her bereaved mother, sisters and relations our heartfelt sorrow, in their bereavement; be it further

Resolved, That a copy of these resolutions be sent to the mother and sisters of our deceased sister, and to her cousin, Miss Kathleen Kelley, graduate of Mercy Hospital and Miss Mollie Kelley, graduate of the West Side Hospital, placed on the minutes of this Alumnæ Association, and published in the nursing magazine, and The New World.

Committee on Resolutions { EDNA DAWES, MILDRED WEST, GERTRUDE FRANKE.

QUINE LIBRARY NOTES.

Librarian Calls Attention to Interesting Catalogues of Chicago's "Primitive" Medical Collegas.

One of the assistants in the library was asked to sort over some material which had been sent in. When the dust had been wiped from the pamphlets and they were placed chronologically in neat piles, the assistant could no longer refrain from the inquiry: "What do you ever expect to do with that stuff, it is as old as the hills? Now for example look at this, a catalogue for Rush dated 1849."

"Do you know" replied the librarian, "I take special pride in those catalogues for I believe we have the most complete collection of catalogues of Chicago Medical Colleges in existence. Some day the subject of local medical history

will receive more attention than it does at the present and to the future historian of medicine in the middle west this collection will be valuable.

"Let me tell you a few things about this particular collection. We have a complete file of the catalogues of our own college, and if you examine that first faculty list you will find three names which are still in our catalogue, Dr. D. A. K. Steele, Dr. J. E. Harper and Dr. G. A. King, who was then designated as professor of diseases of the mind and nervous system.

"We also have the catalogues of the Chicago Medical College from 1865 to the time when the name was changed to the Northwestern Medical College and from that on to the present time. Of the Woman's Medical College, the Quine Library has a complete file, from the first catalogue issued in 1871 when the medical education of women was an experiment, and the catalogue accordingly devotes much space to a defense of and a plea for the medical educatian of women.

"The Rush catalogues date back to 1849, and do you know this catalogue of 1849 which was the seventh issued might be classified under the heading of humerous literature? Just listen while I read some extracts. The first paragraph says: 'The students will take notice that the course of lectures will begin Oct. 15th, about two weeks earlier than usual, the change having been made to secure the advantage of good roads at the beginning and close of the term.' The second paragraph announces with great pride that the number of professors had been increased to seven. The catalogue also contains a list of medical cases and operations presented as clinical material the year previous and as a proof of the wealth of such material the statement is made that the city had a population of 23,000. The medical cases presented at the clinics were classified under 69 heads, and 19 different operations had been performed of this number only four were major operations and these four were all amputations.

"Besides these which I have mentioned we have catalogues of twenty-one minor colleges, many of which have now gone out of existence."

The Librarian wishes to make a special plea to the members of our faculty and the Alumni of the College for contribution of catalagues, reports of medical societies, journals published in Chicago and in fact anything that will add to the material from which the medical history of Chicago and the west will one day be compiled.

COLLEGE VISITORS.

Dr. James G. Greene, of the State Board of Control, of Springfield, Ill., called at the college on February 4th, and was introduced to the Senior Class by Dr. William E. Quine.

Dr. Greene talked freely upon the present condition of affairs at the state institutions and strongly emphasized the opportunities at the present time for the young doctor in these institutions. Already several have made applications for examination and several more are expected to do so in a few days.

Dr. Robert G. Dakin, class of 1903, called at the office to renew acquaintances.

Dr. Lydston D. Howe, class of 1903, at present located at Cherry, Ill., visited the college February 8th. It will be remembered that Dr. Howe was prominent in the terrible mine disaster and spared no effort in trying to rescue the entomed miners.

Dr. Paul A. Slater, class of 1894, called at the college for a short visit.

Dr. W. H. Conser, class of 1907, visited the halls and class rooms for a few hours and it was a pleasant reminder of "those student days."

DEAN QUINE, LOOK HERE,

Dr. Paul A. Slater, class 1894, of Hindsboro, Ill., who is the proud father of a little son, has recently christened the future doctor, Dean Quine Slater, after Dr. Wm. E. Quine, Dean of P. & S. college. Both Quines feel honored.

SCHOOL OF PHARMACY.

OF THE UNIVERSITY OF ILLINOIS.

EDITORIAL COMMITTEE:

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WILLIAM B. DAY, EDITOR.

THE ALKALOIDAL ASSAY METHODS OF THE U. S. P.*

BY ALBERT H. CLARK.

In speaking of the alkaloidal methods of the U. S. P. I do not purpose to enter upon a discussion of the relative merits of the numerous general methods of assay as compared with those methods official in the U. S. P. These methods, such as the precipitation of the alkaloids with Wagner's reagent, Mayer's reagent, Lead subacetate, etc., each possess advantages over all others, but none, perhaps, combine all the good qualities to the exclusion of all the bad. They all have strong and enthusiastic supporters and the time at my disposal does not permit of a discussion of their relative merits. The remarks I will make here will then be confined to a few facts observed during the course of the assay of a large number of samples of drugs as they appear in the usual channels of trade, with an occasional criticism or suggestion as to improvements in the methods as described by the Pharmacopœia, and remarks regarding the standards adopted.

Aconite. The samples examined were found to be above the requirements. I have had no trouble with the method aside from the fact that the filtration and washing of the extract as directed in the original editions of the U. S. P. was very tedious. This has been improved in the later editions. The directions to percolate until 150 cc. of the percolate is

*Read before the Chicago Branch, American Pharmaceutical Association, January, 1910.

obtained might well be changed to read 200 cc. or "until exhausted."

Asafœtida. This drug presents an interesting history. My experience has been confined to the powdered article and for some time after the Food and Drug Act went into effect, samples were received far below the required standard of 50 per cent. alcohol-soluble matter. Some samples being as low as 6 or 8 per cent. The quality has gradually improved and at the present time samples containing 50 per cent alcohol-soluble matter are not uncommon. The ash requirement of no more than 15 per cent. was never attained in any sample I have examined.

Belladonna Leaf. The standard of 0.35 per cent alkaloids originally adopted in the Pharmacopœia seems to have been wisely reduced to 0.30 per cent. Only one sample examined met the requirement of 0.35 per cent, but all of them were 0.30 per cent or better. I have no criticism of the method

Belladonna Root. One sample examined did not meet the requirements of 0.45 per cent alkaloids.

Belladonna Plaster. A large number of commercial samples have been examined and have generally met the requirements of from 0.38 to 0.42 per cent alkaloids.

The method of assay deserves some attention. First, the directions of the U. S. P. to wash the plaster with a mixture of chloroform and ammonia water causes untold trouble. The ammonia water is at once absorbed by the cloth and renders it impossible to completely remove from it the plaster. Several times the number of washings directed still leaves the cloth darkened by the plaster. If to the plaster 50 cc. chloroform is added, and no ammonia water, stirred for some time and then transferred to a second beaker and the washing continued with 50 cc. chloroform added in four or five portions, the ammonia water (2 cc.), added at this point and thoroughly stirred into the mixture, and finally the cloth further washed with the alcohol used to precipitate the rubber, a cloth perfectly white and absolutely free from plaster is obtained.

Second. If as directed the plaster is washed with chloroform and 3 cc. ammonia water and this repeated twice with chloroform and 1 cc. ammonia water, nearly 5 cc. ammonia water will be carried into the separator and this amount will require about 30 cc. of a normal acid and it is plain that about 75 cc. of the mixture of normal acid and water directed will be needed to neutralize the ammonia alone.

Third. Much alcohol is introduced here in the precipitation of the rubber, making it rather hard to extract the alkaloid and I have found that five or six portions of acid are sometimes necessary to completely extract it. The presence of this alcohol also inhibits the delicacy of the test for alkaloids with Mayer's reagent and Wagner's reagent.

Belladonna Extract. The directions here to treat the extract with a mixture of water, alcohol, ammonia water and chloroform, if followed, leads to a bad "mess." It is far better to dissolve the extract in the water and alcohol, transfer to a separator, add the ammonia water and then extract with chloroform. Experiments are being conducted on both plasters and extract and more definite results are expected.

Calchicum Corm and Seed. One sample of the corm has been found below the standard. One sample of seed has been found below 0.45 per cent- colchicine, the standard in later edition of the Pharmacopœia, while all others have been above the original standard of 0.55 per cent. colchicine.

It seems that a special effort has been made to free the colchicine from the fixed oil, etc., in case of the corm where little of any, fixed oil occurs, and but little effort made in the case of the seed where large amounts of oil are present. It seems to me the directions in the two assay methods should be interchanged.

Guarana. All samples examined were above 4.0 per cent alkaloidal principles.

Hydrastis. Of nearly thirty samples but one was below 2.5 per cent. hydrastine. Most of them was above 3.00 per cent. and some as high as 4.00 per cent, and one sample 4.5 per cent.

Ipecac. The original standard of 2.00 per cent. ipecac alkaloids were lowered to 1.75 per cent. Two samples have been examined containing less than 1.75 per cent., three samples less than 2.00 per cent., and six samples above 2 00 per cent.

Jalap. The original standard of 8 per cent. total resin was lowered to 7 per cent. in the latter editions of the Pharmacopœia. A few samples received about three years ago contained as low as 5.5 per cent. resin. Gradually they began to improve and in about a year after the Food and Drugs Act went into effect samples meeting the requirement began to come in, and since then I have seen no samples below 8.00 per cent., and recently received one containing 20.00 per cent. total resin.

The only criticism I have to make on the method was published in the American Journal of Pharmacy, Vol. 81, No. 9, September, 1909, page 431.

Nux Vomica. Three samples only have been found below the standard of 1.25 per cent. strychnine.

This method has received much criticism, nearly all of which is directed to the oxidation of the brucine. It seems to me that an investigation as to the temperature at which this oxidation takes place would bring forth fruitful results.

Hyoscyamus. All samples save one have been above the standard of 0.08 per cent. alkaloids. One sample contained no alkaloid and was found on microscopical examination by Professor Day to be another drug entirely. The identity could not be established.

While 25 Gm. of the drug is used here, the directions given for percolation are the same as in the case of belladonna namely using 50 Cc. chloroform-ether mixture to complete the extraction. This in my opinion should be increased to insure complete displacement of the initial menstruum.

Stamonium. Not one sample has been found up to the original standard of 0.35 per cent., alkaloids. All have met the latter requirements of 0.25 per cent., however. One spurious sample was received, the identity of which could not be determined.

Quite a number of miscellaneous articles have been examined and quite generally found up to the standard indicated by the labels on the packages. From the results obtained on these articles it seems that the assay processes are fairly reliable and give concordant results in the hands of different operators. On fluid extract of hydrastis, stramonium and belladonna of reliable manufacture, I have obtained results which agree very closely with that stated on the label. With extracts of belladonna similar results have been obtained and with a few exceptions the assay methods seem to be very reliable.

CLASS NEWS.

The seniors gave a dance February 4th, at Rosalie Hall, 57th and Rosalie Court. There were about 75 couples present and all enjoyed a good time. The committee in charge were Mr. R. A. Brown, A. Corbin, and A. Vance. Mr. Scharf, a former student at the college, with his orchestra, furnished the music for the occasion.

The Phi Gamma Sigma Fraternity of the School of Pharmacy, together with the chapter from Northwestern University School of Pharmacy, held a banquet at the Boston Oyster House, February 1st, to celebrate the installation of both chapters in the Kappa Psi fraternity. Kappa Psi is one of the large medico-pharmaceutic fraternities with 30 active collegiate chapters. Mr. George L. Holstein, of Lebanon, Pa., Grand Regent of the Kappa Psi's, was here to conduct the installation.

CHICAGO BRANCH ELECTION.

The Chicago branch of the American Pharmaceutical Association held its annual meeting and election on the 25th of January. The officers elect are as follows:

President—C. A. Storer.
First Vice President—E. N. Gathercoal.
Second Vice President—J. A. Becker.
Third Vice President—Mrs. M. M. Gray.
Secretary-Treasurer—W. B. Day.

At the February meeting, Dr. Bernard Fantus, Profes-

sor of Materia Medica in the College of Physicians and Surgeons, will give a lecture and demonstration of the physiological effect of Digitalis.

NOTES OF THE SCHOOL AND ALUMNI.

The president of the University has appointed Professors C. S. N. Hallberg, W. A Puckner and W. B. Day to represent the School of Pharmacy at the meeting of the Pharmacopœial Convention in Washington next May.

Classes were resumed as usual after the holidays and very much to the pleasure of the students; the decorating of the lecture halls and corridors has been completed during the vacation period and everything was found to be thoroughly cleaned and in good shape.

The alumni of the school figure prominently in the list of newly elected officers of the Chicago Retail Druggist's Association. The election, which was quite hotly contested, was held on January 11th. The rival candidates for the presidency were L. P. Larren, '90, and T. F. Cannon, '94. Mr. Larsen was the successful candidate. B. A. C. Hoelzer, '94, was elected first vice president; I. M. Light. '88, was re elected secretary of the association. The C. R. D. A. is the strongest organization which the druggists of Chicago have ever been able to form, and has accomplished a great deal for the retail drug business in this city.

SCHOOL OF DENTISTRY

DENTAL DEPARTMENT
UNIVERSITY OF ILLINOIS.

BATAVIA, ILL., FEBRUARY 20th, 1910.

THE FLETCHERISM.

This supposed new idea is an old subject to students of dentistry: the following editorial will be of interest nevertheless.

WORRY AND DIGESTION.

Dr. Fletcher says don't eat when worried or angry.

"In five years from now it will not be considered respectable to be sick." Many more such cheerful promises as this one was made by Dr. Horace Fletcher, the famous exponent of rational eating, who has made the term "Fletcherism" familiar on both sides of the Atlantic, just before he sailed from New York with his wife and companion on the steamship Saxonia for a cruise to Gibraltar, Genoa and Naples.

"The greatest source of unhappiness in the world at present," said Dr Fletcher, "is the mouth. You should eat when you feel like it, eat what you may crave for at the time, and above all you should chew your food. You may feel like ridiculing the idea that is well to chew your soup. I will, however, ask you to try it. It will improve the soup and help you.

"Never eat when worried, nervous or angry. It is making and absorbing poison to do it. You should chew your food thirty times with every mouthful. If you do this you will live to a great age."

Dr. Fletcher while in Europe will stop off at Naples and there have a chance to have some Italian spaghetti. He was informed that in eating spaghetti it is necessary to hold the head back and let the food slip down.

"Well—er—ah—" smiled and hesitated Dr. Flethcer. "I will chew it just the same."

THE TENT SCHOOL.

One of the sanest as well as one of the most interesting movements in the educational world is the effort to make robust, and at the same time educate, tubercular children. The stamping out of tuberculosis is but a matter of education. And so every experiment tried is watched with increasing interest. The movement is world-wide, and every month brings to light some new idea. All working for all, all will benefit all.

During the summer that has just passed Chicago tried a miniature tented city, fully equipped for a fight on the plague. Thirty alert, enthusiastic, but tainted, children appeared for rollcall. The novelty of the experiment proved attractive to the little ones.

"While each child selected for the new school is in some degree infected with tuberculosis," said Dr. S. A. Gardener, "the disease has not progressed in any of them far enough to give the infection to others. This plan is a great forward step in the cure and combat of the disease. A careful record of each child will be kept, and these records will be examined by a medical expert at least once a week. The records will show the condition of the heart, lungs, color, eyes, teeth, temperature and also the general physical condition."

One of the nurses of the Chicago Tuberculosis Institute was in attendance part of each day and saw to it that the physician's instructions were carried out. She also visited the homes of each child and saw that the good work of the day was not offset by neglect at night. She instructed the parents in the care of the child and tried to get their cooperation in the work of the school. The last incident of the school day was a shower bath for each pupil. This came after supper in the mess tent, and then the children were placed on cars and sent home.

This was the daily routine at the school:

MORNING.

8.20—Arrive at school.

9.00—Breakfast.

9.30—Wash teeth.
9.45—Dish washing.
10.15—Play.
10.30—Gardening.
10.45—Story telling.
11.00—Light gymnastics.
11.45—Breath exercise.

AFTERNOON.

12.30—Noon meal.
1.00—Clean teeth.
1.15—Reclining chairs.
2.15—Sleep an hour.
3.15—Light Gymnastics.
4.15—Recreation.
6.00—Supper.
6.30—Shower bath.
6.45—Return home.

The menu consisted of cerial food with cream and sugar, soft boiled egg and milk for breakfast; boiled meet, boiled potatoes, whole wheat bread, stewed prunes, milk and peanut candy for dinner; Scrambled eggs, jam, bread and butter graham crackers and milk for supper.

"We will save thirty lives in thirty days." "We are planning for ten additional schools of this kind, and we will keep the children out here in the open until severe cold compels us to withdraw for the season.

"We will soon have all the infected children segregated and will teach them how to battle with the disease. We feel certain that almost all the cases can be cured. Of course this condition cannot be brought about at once. This season we hope to strengthen the children, harden them and increase their power of resistance. Early in the spring they will return to tent life again and the work will continue.

THE HUNTER MUSEUM.

Anything that relates to Dr. John Hunter, the eminent English scientist and dental authority, is of concern to the profession. His labors are just beginning to be appreciated as shown by the following in an English paper:

"The demoralizing effect which civilization, ancient or modern, always has on the teeth is the first thought that comes to one in going over the wonderful collection of the teeht and jawbones which has just been added to the museum of the Royal College of Surgeons in Lincoln's Inn fields.

Of the 5,000 specimens which make the collection unique the most interesting to the layman are those gathered together by the famous surgeon, John Hunter, about 1755.

The original specimens of pigs' teeth by which Hunter first demonstrated that the tooth's structure is laid down layer by layer with the growth of the body are shown in an excellent state of preservation. To prove his point Hunter mixed the dye madder with a pig's food for a certain number of weeks.

This caused all the new tissues formed during that period to be stained with the dye. The pig was then fed for a period on ordinary unstained food. Hunter then extracted a tooth and cut it in half, showing that it contained a layer of colored material surrounded above and below by normally colored tissues.

Specimens of early English skulls, side by side with modern specimens, prove the truth of the now generally accepted belief that the crowded, uneven teeth so commonly seen nowadays are the result of the jaw having gradually decreased in size during the ages, while the teeth have remained the same size.

Besides being more even and less crowded, prehistoric British teeth are shown healthy and firm in the skulls, though worn down by use.

That civilization in the old days had as had an effect on the teeth as it has now can be seen by comparing pre-dynastic Egyptian skulls with those whose owners lived in the Ultra-civilized days of the Egyptian Kings. The teeth of the former are firm and without blemish; those in the latter are as unsound as present-day British teeth.

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THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS
MEDICAL DEPARTMENT OF THE
UNIVERSITY OF ILLINOIS,
CHICAGO.

VOL. XVI. BATAVIA, MARCH 20th, 1910. NO 3

MEDICAL STUDY IN EUROPE.

By Bernard Fantus, M. D.
Professor of Materia Medica and Therapeutics and Assistant Professor of Clinical Medicine, College of Physicians and Surgeons, Medical Department University of Illinois.

ARTICLE V.

VIENNA MEDICAL COURSES FOR AMERICANS.

The chief competitor of Berlin in attractiveness of post-graduate medical courses is Vienna. Indeed, it probably excels Berlin, for the reason that its medical work is so well centralized. In Berlin, owing to the fact that the hospitals and the various departments of the medical school are scattered in different portions of the city, much time is lost in getting from one place of study to another. In Vienna, on the other hand, practically all places for medical study are clustered in or around the great Vienna General Hospital (Allgemeines Krankenhaus.) For this reason Vienna is the ideal place for medical study in Europe.

Courses on almost any medical or surgical subject or specialty may here be obtained in English at fees ranging from ten to twenty dollars per course, excepting for operative work on patients, the fees for which range up to perhaps $60.00. As attendance is limited to a definite and small number of participants, generally from two to ten, and the demand for the best courses is great, it is in case of some courses necessary to register for the course a considerable

time ahead. Most of the courses last one month, and begin at the first of each month.

In Vienna, too, do we find a society of American students of medicine. It is known as the American Medical Association of Vienna. Its purpose is to help new-comers in getting started at their studies, and to promote social intercourse besides. The headquarters of the society are in the Ninth Bezirk, or district, at the "Cafe Klinic," corner Spital and Lazareth Gasse, just opposite the "Wiener Allgemeinen Krankenhaus." Here one may find almost any time of the day or evening groups of Americans, who are glad to extend the hand of fellowship to their countrymen, and to give them help and advice. One can also find here the official register of the American Medical Association of Vienna, a small English Medical Library, and the announcements of most of the courses given, which are posted here from one to two week before the beginning of the course. It is well to register here immediately or arriving as eligibility to some of the courses is in order of the registration. The society publishes a medical guide to Vienna, price five cents.

SURGICAL TREATMENT OF CHRONIC* ARTHRITIS.

By EDWARD H. OCHSNER. B. S., M. D.,
Adjunct Professor of Clinical Surgery, College of Physicians and Surgeons, Medical Department University of Illinois.
Attending Surgeon to Augustana Hospital.

In considering the surgical treatment of chronic arthritis it is of prime importance to distinguish the different types of arthritis, because I believe that a remedy which may be very beneficial in one type may be useless in another, and even harmful in still another. I believe that much of the confusion and many of the failures can be traced to the lack of careful differentiation. Before the time of the discovery of the pus micro-organisms by Ogston, the tubercle bacilli by

*Permission of the Journal of the American Medical Association, March 5, 1910.

Koch and the gonococcus by Neisser, this subject was in a chaotic condition, and even now much confusion exists in the minds of most medical men.

Within the limits at my disposal it is impossible to discuss in detaill the different types of chronic arthritis. I have consequently concluded to pay especial attention in these remarks to a consideration of one of the most common, distressing and fatal types, namely, arthritis deformans. Arthritis deformans is most commonly confused with septic, tuberculous, gonorrheal and syphilitic arthritis, gout, flat-foot and chronic articular rheumatism.

As stated above, in order that we may treat this affection satisfactorily, we must, first of all, have a fairly clear conception of each of these forms of arthritis, so that we may differentiate this particular form from the others in at least the great majority of cases which may present themselves to us.

In septic arthritis the onset is more acute; it is always accompanied by considerable pyrexia, usually with a chill, nausea, vomiting, malaise and severe pain; and, while occasionally several joints are involved simultaneously, the number affected in the end is not so great as in most cases of arthritis deformans. If the infection is due to one of the staphylococci, there is usually marked effusion into the joint, local heat, redness, pain and loss of function. The joint affection is probably always secondary to a primary affection, which can generally be located. There is always a marked leucocytosis.

I mention staphylococcus arthritis because I have had a number of chronic cases in which on aspiration I found staphylococci in pure culture in one or more of the joints, cases which had previously been diagnosed as arthritis deformans by capable observers.

Tyberculous arthritis, while running a chronic course, is distinctly more acute than arthritis deformans, more painful, at the onset accompanied with more fever, usually monorticular, and if, when the patient first comes for examina-

tion, several joints are involved, the history will practically always show that a considerable interval existed between the involvments of the different joints. There are other points, such as the von Pirquet cutaneous reaction, opsonic index and many more, which might be cited, but if reasonable care is practiced a mistaken diagnosis between tuberculous arthritis and arthritis deformans should not occur.

With gonorrheal arthritis the danger of a mistake in diagnosis is considerably greater, as I have seen several old cases of gonorrheal arthritis which had been repeatedly diagnosed as arthritis deformans. Gonorrheal arthritis is generally mono-articular, sometimes multiarticular and only rarely panarticular. These latter cases are sometimes confusing, but the history will always bring out the fact that the onset was sudden and severe, and that all the joints were involved or nearly so. Often a history of gonorrheal infection can be obtained, and sometimes the specific microorganism can still be found on careful search.

I have never seen a case of syphilitic arthritis which could possibly be mistaken for arthritis deformans, but the possibility of such an error is mentioned by several writers, and I believe that on careful examination a sufficient number of unmistakable luetic signs and symptoms, the greater number of which I need not cite here, can always be found to make a differential diagnosis between syphilitic arthritis and arthritis deformans. If any doubt exists, a careful course in antileutic remedies should be instituted before a final diagnosis is made.

Several authors make the statement that gout is sometimes confused with arthritis deformans. If one takes the trouble to get a careful history, this mistake can always be avoided, because in gout we shall always obtain a history of one or more severe acute attacks with intervening periods of complete remission.

While it is true that an abduction deformity simulating flat foot is often found in the later stages of arthritis deformans, simple flat-foot, no matter how severe, should never

be confused with arthritis deformans. I have seen this mistake several times, but even a superficial knowledge of these two affections should make this error impossible.

The principal source of confusion seems to arise from the fact that even prominent authors and clinicians fail to differentiate between the form of chronic arthritis which develops subsequent to acute articular rheumatism and true arthritis deformans; thus, for instance, Strumpel[1] says that a clear differentiation between the two cannot be made. To this statement I cannot subscribe; on the contrary, I believe that arthritis deformans is a disease as distinct from chronic rheumatism as is syphilis from tuberculosis, and as easily distinguished from it. While we shall all agree that it is sometimes impossible to make a differential diagnosis between syphilis and tuberculosis, still we would scarcely describe the two affections in a text-book on internal medicine under the same heading; and yet I believe we should just as much justified in doing this as are the text-book authors who describe chronic rheumatism and arthritis deformans under the same caption.

As stated above, this differentiation is very important, because the two types of arthritis respond to entirely different treatment. True chronic articular rheumatism is always secondary to acute articular rheumatism, of which there may have been one or more attacks, each attack being ushered in by a severe illness, great pain, pyrexia, swelling, redness and tenderness of the affected joints. The joints to be affected during any one attack are usually all affected at the same time. Arthritis deformans, on the other hand, is insidious in its onset, chronic from its very beginning, as several years may elapse from the appearance of its first symptoms until it causes any considerable degree of disability. Thus, for instance, I have in mind a case in which the first symptoms appeared in 1892 and in which serious

1. Strümpel. Adolf: Lehrbuch der speciellen Pathologie and Therapie, Ed. 15, ii, 517.

symptoms did not appear until 1897, and the disease had not reached its height until 1899.

While arthritis deformans may primarily be limited to one joint, and often begins in one or two joints, one joint after another usually becomes involved until all or nearly all of the movable joints of the body are affected. At this point I wish to call attention to a fact which will often give the key to the right diagnosis, namely, that within the first two or three years of the disease it is usually possible to find one or more joints just beginning to be affected, others in which the inflammatory process is at its height, and again others that have reached the quiescent or terminal state with its atrophies, exostoses and centractural deformities.

In chronic articular rheumatism are found the final results of an acute and subacute inflammation of the synovial membrane, with little involvement of the extra-articular structures, and if deposits occur they are usually found more or less free within the joint capsule. In arthritis deformans the process seems to be largely confined to the joint cartilages and the extra-articular structures, with little, if any, involvement of the synovial membrane. This difference in structural involvement results in the production of two utterly dissimilar but very characteristic pictures. In arthritis deformans the involvement of the cartillages and the extra-articular structures causes contractures, and the joint become permanently rigid and fixed.

On examining this last picture it will be noted that all of the fingers are in a position of slight abduction and slight flexion, and none of the joints in hyperextension. If such a hand is carefully examined the joints will be found flaccid, the capsular ligaments longer and looser than normal; there will be no bony ankylosis, ane the deposits found will be within the synovial membrane.

Patients with chronic articular rheumatism are greatly benefited by hot baths, sweats and Bier's active hyperemia, while arthritis deformans patients are made markedly worse by these remedies.

The difference in the history of development, the characteristic deformity and the therapeutic test make a differential diagnosis possible in practically every case.

I regret exceedingly that I am unable to furnish absolutely positive proof as to the etiology of arthritis deformans, but I believe that it is the result of long-continued autointoxication as distinguished from single, repeated or long-continued autoinfection, as illustrated by nearly all of the other acute and chronic inflammatory joint affections. In other words, so far as the joint process itself is concerned, I believe that it is a chemical rather than a microbic process. I fully realize that in the present state of our knowledge, or rather lack of knowledge, of *intra-vitam* chemical tissue changes the preceding statement is not susceptible of positive proof. I wish, however, briefly to outline some of the facts and observations and deductions on which my belief is based.

So far as I am able to determine, there are no authentic cases on record in which a specific micro-organism, or, for that matter, any organism, has been found in true cases of arthritis deformans. On careful analysis of the reported cases of chronic arthritis in which micro-organisms have been found in the joints it is usually easy to determine that the affection was really not a true arthritis deformans, but one of the other types of chronic joint involvement. So far as I am able to determine, patients with true arthritis deformans never show leucocytosis; they never have marked pyrexia, not even as new joints become involved, unless they are suffering at the same time from some intercurrent febrile affection. There is little, if any, increase in synovial fluid, the swelling being confined almost exclusively to the capsule and periarticular tissues.

The first case that led me to differentiate between a chemical and microbic process was that of a patient who was suffering from very severe hemorrhoids and numerous rectal fissures, who admitted that she rarely had a bowel movement oftener than once a week, and frequently went two

weeks. For several months she absolutely refused to take a cathartic from dread of the pain which a bowel movement would cause. She finally submitted to an operation, and the material that was found in the rectum at the time of operation, and that was subsequently evacuated by the use of cathartics, for foulness and stench beggared all description. I have never seen anything like it since. I also recall three cases of coprostasis due to adhesions from old appendices, and one case of beginning arthritis deformans in a case of very badly lacerated, ulcerated and eroded cervix. The three cases of arthritis deformans complicated with chronic appendicitis were very different from acute articular rheumatism following acute appendicitis, as first described by Finney and now familiar to all of us.

To my mind there is absolutely no evidence in favor of the supposition that arthritis deformans is of a nervous origin. The few cases that have come to autopsy and have been subjected to careful microscopic examination show no changes whatever in the nervous system, and while the great majority of organic nervous diseases, excluding tumors, occur in males, the great majority of cases of arthritis deformans occur in females. These are facts which should surely make us slow in ascribing arthritis deformans to some obscure nervous origin. The repeated statements in text-books that it is probably due to a nervous lesion recalls the fact that for decades past, when authors were unable to find any plausible explanation for a disease, they were prone to ascribe it to a miasm or to some obscure nervous lesion, and I believe that this supposed nervous origin of arthritis deformans is only a similar superstition.

Even a very superficial consideration of the methods of treatment that have been in vogue in the past brings out some very startling and interesting facts, many of which would be amusing if they were not pathetic. I will not cite any of the remedies that have been recommended heretofore, because I believe the less one knows about them and the quicker one forgets them the better it will be for our-

selves and our patients. A rather extensive perusal of the literature on arthritis deformans, which, because of the great amount that has been written, must necessarily be incomplete, gives the information that 127 different remedies are being recommended for this condition. The number of times that I found each of these remedies advised varied from one to forty two. Many are only tentatively suggested; again others are very strongly recommended. This is a condition of affairs very similar to that which existed in the treatment of diphtheria prior to the introduction of antitoxin, and the fact that all of these remedies are recommended simultaneously in the literature of a decade is rather strong presumptive proof that none of them are of any real value, because if any one approached a specific in its action the others would soon be discarded entirely.

To me a case of arthritis deformans presents the following picture: We have, to begin with, some factor which causes articular and periarticular irritation. This, in turn, causes more or less constant pain, which results in malnutrition and loss of resistance. If the process is not brought to a halt this soon results in a vicious circle, which I have tried to illustrate by a schematic drawing (Fig. 4), one factor causing the next until the patient finally becomes so exhausted that she or he becomes a bed-ridden cripple, and finally an easy prey to an intercurrent affection. An analysis of the remedies recommended gives the impression that students of this disease have more or less vaguely comprehended the situation, but because of the lack of definite knowledge as to its etiology their attempts to relieve it have been practically futile. Here, as in all other affections, we should make every effort to prevent the development of the disease, and I believe that this is actually being done, and many cases of arthritis deformans are being prevented by surgeons all over the country every day when they remove foci of chronic infectional obstruction, thus preventing chronic toxemia.

Next in importance to prophylaxis is the early recogni-

tion of the cause and its removal if possible. I now recall three early and yet typical cases of arthritis deformans, the further progress of which was stopped by the prompt removal of offending appendices; two very advanced cases in which the patients were distinctly benefited by the excision of the affected appendices, but in which the disease had advanced so far that only a relative cure was accomplished; one patient suffering from recurrent appendicitis and hemorrhoids, who refused operation and became progressively worse; one advanced case, the patient suffering with hemorrhoids and anal fissures, in which the disease was arrested and great improvement resulted after the rectal trouble was relieved.

If the case is an advanced one in which the original cause has ceased to be operative, or in which we are unable to locate the primary lesion, it becomes necessary to devise some other means by which we can obtain at least partial relief. For a number of years I have made a critical study of this and allied affections, and have treated a number of such cases with what I consider reasonable success. I believe that I am now in a position to outline a plan of treatment that which will relieve these patients of their most distressing symptoms, save them from the mental and physical distress of being dependent, bed-ridden invalids, and make them comfortable, often self-supporting, members of the community.

In adalyzing the remedies previously employed one will find that the effort has been made, consciously or unconsciously, to break in on the vicious circle at various points. The right cause not having been found, it was, of course, impossible to destroy the vicious circle at this point, and for this reason also none of the remedies previously recommended seemed able to break the vicious circle at the next point, the point of irritation of the joint itself, so most of the remedies have been directed at the next two points, pain and malnutrition, but, so far as I am able to determine, rarely, if ever, with success. Opium and all of its deriva-

tives and many of the coaltar preparations have been recommended as anodynes in this affection, but we all know that while certain of these remedies will temporarily relieve distress, they all further impair the nutrition, and thus make the patient less and less able to bear the subsequent pain; consequently they make the patient worse rather than better, and have been generally discarded by the best practitioners, except in the extreme terminal conditions of the disease. Many of the remedies are given with the hope of improving the general nutrition, but it is impossible to improve the nutrition of a patient so long as she is continuously suffering pain. I know of no one thing that more surely reduces the resistance of a patient and prevents improvement in nutrition than does long-continued pain. This fact convinced me that if we could by some natural means—that is, without the use of opiates and other drugs—stop the pain, we could then secure good nutrition, and thus break in on the vicious circle and save our patients.

It occurred to me that the one way we could accomplish this was by securing absolute rest of the affected joints; but this was not so easy of accomplishment, because in some of these cases nearly every movable joint sooner or later becomes affected, and I have had several late cases in which practically all of them were affected simultaneously. An additional obstacle was the fact that most of these joints are partially ankylosed, with either flexor or extensor deformity with one or the other group of muscles at a distinct mechanical disadvantage, and the mere application of a retention dressing, no matter how secure or rigid, would not relieve the muscle spasm completely so long as this deformity was allowed to persist. During my work with tuberculous joints I discovered that the relief of pain in an inflamed joint involved the recognition of two separate and distinct principles: first, the application of an absolutely rigid, close-fitting retention dressing; second, the application of this dressing with the limb in such a position that the antagonistic muscles surrounding the joints are in absolute equilibrium,

so that the extensors shall have no mechanical advantage over the flexors, nor the abductors over the adductors If this ideal position is secured by absolute immobilization, pain in any chronically inflamed joint will cease from within a few hours to a week. The treatment of these old cases of arthritis deformans, in which the above vicious circle has been fully established, and in which the primary cause can either not be found or has become non-operative (as I believe it has in many cases), practically resolves itself into the relief of pain by natural means without the use of opiates and other drugs, and consists in the application of a snug, firm, absolutely immobilizing retention dressing with the antagonistic muscles at equilibrium. If the contractures are very pronounced, and the limb or limbs cannot be brought into the desired position without causing extreme pain, the patient is anesthetized, the contractures broken up, and if necessary the tendons lengthened by tendoplasty, the limbs placed in plaster-of-Paris dressings in the desired position, and allowed to remain there until the pain and irritation have entirely subsided.

If it has been necessary to use a great deal of force, or to do an open operation, a plaster-of-Paris mold is applied over cotton. When the reaction has subsided, or the wound has healed, a new plaster of-Paris mold reinforced with basket splints and wheat gluten bandages is applied over stockinet. In this manner a splint can readily be constructed so that it will be comfortable, absolutely rigid, light and durable, the four essentials in a retention dressing of this kind.

For immobilizing the joints of the upper extremity a small pad is placed in the axilla and a shoulder-cap applied; this is fastened to the chest with a soft roller bandage. The elbow is placed at a little less than a right angle, the fore arm rotated inward slightly, so that the anterior surface looks directly toward the body, the thumb slightly extended, the fingers held perfectly straight and a mold applied in this position. For immobilizing the hip I use a plaster-of Paris spica extending from the umbilicus to the pubis and to with-

in an inch above the knee, with the thigh abducted 10°, ventral flexion 5°. The knee is immobilized at an angle of 175° and the ankle at 85°.

The above-described positions are chosen because they are the ones which secure muscle equilibrium, and fortunately at the same time are also the positions giving the muscles the best opportunity subsequently to limber up the joints, and in case any of the joints should be permanently ankylosed it leaves the limbs in the most useful position.

What now is the prognosis of these cases thus treated as compared with the prognosis in the past? So far as I am able to determine, patients with true arthritis deformans treated by the usual methods in vogue in the past have generally become progressively worse, so that they have become bed-ridden invalids in from three to seven years after the onset of the disease. During all of this time they have suffered a great deal of pain; a considerable part of the time they have been unable to support themselves, and the last year or more they have required the constant personal care and attention of one or two attendants. When they once become bed-ridden they become utterly helpless, require at least one personal attendant, and are either a great financial burden to their relatives or to the community. If the treatment above outlined is instituted early, if the cause can be found and removed, this unfortunate condition can often be prevented, as the following brief history will illustrate:

Case 1—On March 14, 1907, a woman, aged 47, presented herself suffering from beginning arthritis deformans, which began with an involvement of the proximal phalangeal joint of the ring finger of the left hand three years previously. At the time of examination most of the metacarpophalangeal and phalangeal joints of both hands were involved; also wrists and knees. The patient's complexion was muddy and anemic; nutrition fair. In the history she gave the information that nineteen years previously she had had an attack of typhoid fever. The patient was examined repeatedly with negative results. Finally one day, on ex-

aming her, a tenderness was discovered at McBurney's point. On closer questioning it was found that she occasionally felt pain in this region, and on analyzing the history carefully it was determined without question that the previously mentioned attack of typhoid fever had really been a severe unrecognized attack of appendicitis. The appendix was exposed by a McBirney incision, was found 7 cm. in length, curled up, universally adherent, lumen markedly constricted near its proximal end, the distal end filled with fecal matter. The appendix was removed in the ordinary manner, the patient made an uneventful recovery so far as the operation was concerned, her nutrition began to improve, a healthy complexion replaced the previous muddy anemic one, the joint irritation slowly subsided, and for the past year or more she has been in perfect health.

The question arises what shall be done with those patients who are not yet helpless but in whom we are unable to find the cause. For the present I shall have to give the advice that they be left alone, unless they are thoroughly familiar with the disease, know what is in store for them if they follow the ordinary methods of treatment, and are willing to persist in the treatment above outlined until relatively cured. The only cases in which I have suffered defeat have been those of patients who have come in the intermediate stage, when the cause could no longer be ascertained, and before they were absolutely helpless.

If the patient does not come under treatment until she is bed-ridden much can still be done for her. She can be relieved of all of her pain, much of her deformity and malnutrition: often she can be rendered self-supporting, and always enabled to look after own personal wants.

As an illustration of the above I wish to give briefly the history of one of the worst cases of arthritis deformans I have ever treated:

CASE 2—An unmarried woman, aged 29, came to me in the summer of 1897. She was scarcely able to walk a distance of two blocks; she was greatly emaciated, and gave

the history of first experiencing slight pain at the point of insertion of both tendons of Achilles five years previously. Gradually and insidiously one joint after the other became involved, so that when I first saw her nearly every movable joint of the body was affected. In the meantime she had consulted many physicians, including several prominent specialists and also numerous quacks, including faith-healers, etc. During the next two years I tried various remedies then advised in the treatment of this affection, including the application of hot air and wet compresses. The patient, however, became progressively worse, more and more helpless, bed-ridden, so that by 1899 she was absolutely helpless. She could not walk, stand, lie or sit, but had been resting in a semi-recumbent position on a specially constructed couch. Finally she became so helpless that she could not even turn the leaves of a book which was resting before her on a reading table; even her jaws and spine were partially ankylosed. In 1900 she was sent to the hospital, on admission she weighed 78 pounds. She was anesthetized, the contractures broken up, immobilized as previously outlined, and slowly began to improve. The last time I saw her, about five years ago, she weighed 140 pounds, and was up and around; to be more precise, she was stirring the batter for a cake. She informed me that she was doing considerable housework, nursing her aged sick mother, and was able to attend to her own personal wants with the exception of putting on her own shoes and stockings. For the last five or six years she has sent me a piece of her own needlework every Christmas.

While such a condition is not to be looked on as a perfect cure, it is surely a very much less deplorable condition than that which existed before this treatment was instituted. I have several patients who had been bed-ridden for years who are now making their own living.

In concluding I should like to emphasize the following points: first, that a clear differentiation is absolutely necessary to the successful treatment of these chronic joint affections; seconn, that beginning cases of arthritis deformans

should be carefully studied, the cause ascertained and removed whenever this is possible; third, that for the present at least it is well to be rather cautious in the treatment of the intermediary cases; and, finally, that even in the very late and apparently hopeless cases the patients can usually be greatly benefited by proper treatment.

SURGICAL ASPECT OF TUBERCULAR UTERUS AND APPENDAGES.*

By Dr. Charles Nelson Ballard, Odlahoma City, Okla.
Formerly of Chicago, Ill., Associate Professor of Gynecology at College of Physicians and Surgeons, (Medical Department of the University of Illinois); Surgeon to the Marion Sim's Sanitarium, Chicago; Attending Surgeon to West Side Hospital, Chicago; Attendant in Gynecology, West Side Dispensary.

We are not here today to vie with each other in a political contest; we are not here to listen to attorneys discuss some hypothetical question; we are not here to see some surgeon exhibit his skill; neither are we here to hear the whys or wherefores of the suffragettes, but we are here to discuss the ways and means of defense against our most dreaded enemy, the White Plague.

The most destructive disease of the human race today is consumption or tuberculosis, being the cause of one death in every seven occurring among our people.

It is said that in Germany alone, there die yearly, from this disease 100,000 people.

Our efforts in the great crusade now being made by all civilized nations, is to devise some means of preventing the spread of the disease. People must be instructed as to what is the most potent factor in its production; through what medium it is most frequently transported; and how we are to prevent its gaining vantage ground. We find it in both sexes, at all ages, in all climates, in all vocations, among

*(Read before first annual meeting of the Oklahoma State Anti-Tubercular Association, Oklahoma City, Oklahoma, January 10-11, 1910.

the rich as well as the poor, and not confined to any special organ, but disposed to migrate from one to the other, affecting all in proportion to their ability to resist disease.

The pathologist teaches us that the bacillus tuberculosis takes the stain slowly but purely. This is characteristic of its actions where ever it is found. Its invasion is slow, but only too surely does it master the situation while its enemy sleeps.

They also teach us that this germ strongly resists the discoloring action of mineral acids, demonstrating again its ability, when properly emplanted within the entrenchment of tissue inactivity, to gradually advance without interference, with any, so far known, remedial agent.

It behooves us to be active in our effort to prevent its becoming so securely entrenched beyond our control. We are not to allow it to gain the vantage ground. Much good must be accomplished by our teaching those who are not aware of the manner of its spreading, or the gravity of being exposed.

We must begin teaching the fathers and mothers. In fact the instruction must begin before this, as we are aware that tubercular parents produce offsprings, if not tubercu-lous at birth, are fit subjects to very readily contract it. They are weaklings—unfit to cope with any disease. They become subjects of charity; and finally must be cared for by public institutions.

Then its not our duty to prevent the birth of such children? If so, we must prohiblt, if possible, the marriage of tubercular people.

In some foreign lands, where the laws in many respects are less severe than ours they require a certificate of health before the marriage ceremony is performed.

A tubercular mother is unfit to nourish her babe. She should be prevented from placing it to her breast.

Medical men have learned, and learned it well, by actual observation, that not only parturition but lactation is hazardous to the tubercular mother. If she nurses her babe

she allows it to sap her life away more rapidly, and only too surely lays the foundation, in the babe, for the ready ingress of this most dreaded disease.

This leads us to a delicate point for the legal profession to handle. Is it possible to pass laws that will prevent the marriage of tubercular subjects, if not we will be compelled to cope with the disease in infants. This is a starting point of vital importance in preventing the spread of the disease. The organs within the field limited to my subject, when once overcome by this disease, must usually succumb to the surgeon's knife. By this means the tissue or organs so effected may be removed, cutting short the destruction of adjacent organs, crippling the onward progress of the disease. This gives time to strengthen the tissue, about to be invaded, by more paliative means.

The surgeon can only hope to be a means to an end. He can only open the way, in advanced cases, for what must follow to successfully combat the disease. He can stifle the enemy, but more must be done.

When he has exhausted his skill the patient has not now, as formerly, to be placed in a hospital, surrounded on all sides by higher buildings, shutting out the rays of the sun so all important to his final success, but will make use of that greatest enemy of the tuberculosis bacilli, the rays of sunlight.

I think it is becoming recognized, more and more, that all forms of tuberculosis must be treated along the same general hygienic, dietetic lines, and that tuberculin is coming more and more in favor, especially in surgical cases.

The old plan of performing an operation on a tuberculous patient, and placing him in a stuffy room in a stuffy hospital, I am sure, will soon be among the things that were.

The post-operative treatment of this class of cases should be substantially the same as with pulmonary type. This leads me to suggest that the hospitals of the future will be constructed with a view to giving patients more air and better food.

In order to accomplish this it will become necessary to take the hospitals to the country, or at least to the suburbs of large cities.

The time will come when only emergency hospitals will be maintained in congested district.

One thing is certain, and that is that the profession are recognizing the valuable aid of fresh air and sunshine in the treatment not only of tuberculosis, but of all forms of disease.

But few outside of the medical profescion are aware that tuberculosis can exist in any other organ except the lungs. This is a reason for many of the forms of the disease being neglected until far advanced. It may be making its inroads felt in some vital internal organ without being visibly manifest.

The female genital organs are exposed to infection secondarily from some other organ or primarily from without. The first form may be transmitted through the blood, lymphatics or by contiguity of tissue, while the latter is introduced by the use of unclean instruments or hands. The patient may infect herself on the train, in hotels, or baths, by the careless and promiscuous use of towels and bed clothing. The public bath is a fruitful source for infection when every sanitary precaution is not carefully carried out. These are only a few of the means of introduction of infection from without that are of special interest to the surgeon.

How many times the little school girl, pale and emaciated, poor appetite, no energy for study or play, is compelled to attend school and neglected because she does not cough and make plain that one definite symptom of lung tuberculosis; yet her life is being destroyed by unsuspected tuberculosis of her reproductive organs. In inflammation of these organs in the young girl tuberculosis should alwsys be suspected until proven to be of some other source. Oftimes only a slight inflammation of the tubes may be beginning tuberculosis. About 05 per cent of all infections of the tubes are tubercular.

It is stated that fully 75 per cent of the cases of tuberculosis operated on at Johns Hopkins hospital are of this unsuspected type.

They are diagnosed only by the use of the microscope previous to or following the operative procedure. It is not just as important that proper means be used to diagnose the disease of the genital organs in the young school girl as that of the lungs or any other organ from which infection can take place. This is a point, I am sure, wholly neglected by many who are to carefully examine the school children. If these cases are diagnosed early, and proper hygienic and dietic treatment instituted, together with the use of tuberculin, we can give them much encouragement as to a final, complete recovdry without surgical intervention. If neglected, surgical interference is the only hope.

We must not forget that tuberculosis of the lungs may cause tuberculosis of the uterus and tubes, or that of the tubes and uterus cause tuberculosis of the lungs.

The symptoms of tuberculosis of the uterus and adnexa are never positive, but are not unlike those of ordinary inflammation of these parts, but if occurring in a weakly, especially unmarried, woman, with a tuberculous family history, a continuous slight afternoon temperature, are suspiciously indicative of the tuberculous character of the affection. If neglected it tends to a fatal termination by localization or extension to more vital organs.

The age at which the disease is most actiue, if existing in the female genital organs, is between 20 and 30 years.

This is the period of greatest activity of these organs, as well as the time of their most frequent exposure to disease. Their vitality may be lessened by accidents incident to their reproductive activity or their exposure to other forms of infection.

If the infection begins in the pelvic organs, and palliative means do not suffice, then we must resort to radical surgical means to cut it short and prevent its spreading to more vital organs. By this means we will move the source of

supply of the infective germs and prevent their being carried to the more remote parts of the body and being implanted where medical and surgical skill is of no avail. A carelessly cared for consumptive not only endangers those about him, but continuously reinfects himself; new tissue is infected by the newly introduced germs; new fires are being lighted by neglect, as the old ones are extinguished by medical or surgical skill.

Surgical tuberculosis is pre-eminently a disease of the very young. If diagnosed early these first decennium will furnish the majority of the cases; the second, one-fourth of the total number, and the balance will come after twenty years. Of all the diseases to which the negro and North American Indian have fallen heir, tuberculosis in all its forms has proven the most fatal. Years ago these two races were not as subject to the disease as the whites, but since their change of living from out-door life to the stuffy, unsanitary huts in the cities, the disease is found three times more frequently than among the whites. The surgeon notes this change in these people in particular, as their generative organs are especially subject to the disease. Observing the effect of the change in the manner of living of these two races teaches us again the importance of fresh air and sunshine.

Statistics show that the change of the Indian girl from the tent to the school room produces a noticeable increase in the disease.

The change of the peasant girl when she comes to this country and lives the life of a domestic or a factory worker is made note of by the specialist in diseases of women, in particular as her generative organs are the ones seemingly first to suffer. The tubercular bacilli is always ready and waiting to take advantage of this diseased condition, and tuberculosis of the reproductive organs is the result.

Patients too frequently expect surgery or medicine to restore them to perfect health. When once disease has practically destroyed the tissue we can not hope by any hu-

man power to replace such tissue as perfectly as it was before it was diseased. Could we teach them that after this disease has become far advanced in the uterus or adnexa that they can only hope for assistance, and that it will be due to their untiring effort in following instructions given them to finally accomplish the desired result.

The surgeon may cut the disease short by the use of the knife; the medical expert may diminish its progress by the use of tuberculin; but the patient himself must be the principal factor in conquering the disease.

In operating on tubercular patients I am very careful to inform her of her actual condition, explaining the gravity of the disease and the importance of her following carefully the instructions given not only for her protection, but to protect those who are compelled to be about her. Without her knowledge of the existing disease her co-operation can not be obtained.

More depends upon our ability to instruct and the patient's willingness to make proper use of the instruction given than to all medical nostrums at our command. It is true that medicine is very necessary when actually needed, but it is not the important factor in a cure.

Surgery must be resorted to when the condition demands it, but both medicine and surgery are too promiscuously used in tubercular affections.

Well do I remember a case, a young married woman of 30 years, who had passed through six weeks of what was supposed to be typhoid fever. She was attended by one of the best internal diognostitions in this country. She did not recover satisfactorily, and drifted to my clinic in the east, where from the scrapings of the endometrium, examined with the microscope, a diagnosis was made of tuberculosis of the uterus. A tubal complicotion existed. It was decided to do a complete removal of all the genital organs, which I did. She made an uneventful recovery, and was free from disease five years subsequent to the operation. The disease was evidently primary, not having extended to adjacent organs.

Tuberculin was used and proper hygienic and dietetic precautions taken after the operation.

I cite this case only to show how easily the disease may be overlooked in these organs. how seldom thought of by the general practitioner, and yet how important when a diagnosis is made early enough.

The disease being primary, the principal distributing point was removed and a better opportunity given to check its progress.

We conclude, then,

That it is our duty to protect the public from contamination with the now existing disease.

That it is our duty to prevent the marriage of tubercular people.

That our hospitals for the care of consumptives should be placed in the country.

That our babes be protected from the tubercular nurse

That the disease of the genital organs of the young school girl be as closely watched as that of any other part of the organism.

BILL FOR NATIONAL DEPARTMENT OF HEALTH.

By Robert L. Owen.

Mr. President, the people of the United States suffer a loss of over 600,000 lives per annum. This terrible loss might be prevented by reasonable safeguards under the cooperation of the federal and state authorities, each within strict constitutional limits.

These deaths are caused by polluted water, impure and adulterated food and drugs, epidemics, various preventable diseases—tuberculosis, typhoid and malarial fevers, and so forth—unclean cities and bad sanitation.

Measuring the money value of an American citizen at $1,700, this preventable loss by death is one thousand millions of dollars annually, equal to the gross income of the United State government.

There are 3,000,000 people in the United States on the sick list from preventable causes, of whom 1,000,000 are in the working period of life: about three-quarters of a million actual workers losing on an average of $700 per annum, an approximate loss from illness of five hundred millions, and adding a reasonable allowance for medicine, medical attendance, special food and care, a like sum of five hundred millions, these losses would make another thousand million dollars of preventable loss to the people of the United States.

AUTHORITY FOR FACTS STATED.

Do you imagine that these figures are exaggerated or fanciful, Mr. President? They are confirmed to us by the Committee of One Hundred on National Health in its Report on National Vitality. (Bulletin No. 30, p. 12.) This bulletin was prepared by Prof. Irving Fisher, professor of political economy of Yale University, with the assistance of the most learned men in the whole world, including Prof. Lafayette B. Mendel, of Sheffield Scientific School of Yale University; Prof. M. V. O'Shea, University of Wisconsin; Dr. Charles W. Stiles, a chief of the hygienic laboratory of the United States Public Health and Marine-Hospital Service; Robert M. O'Reilly, former Surgeon-General of the United States Army; Prof. C. I. Henderson, University of Chicago; and the officers of the various public health societies and of the American Medical Association; Dr. George M. Kober, dean of the Georgetown Medical College; Dr. Norman E. Ditman, Columbia University; Dr. J. H. Kellogg, of Battle Creek; Hiram J. Messenger, actuary of the Travelers' Insurance Company, and so forth.

Mr. President, our pension roll of over $150,000,000 per annum is three-fourths of it due to illness and death from diseases that were preventable. Under a wise administration in the past the United States would today be saving an annual charge of about $125,000,000 on the pension list, and would have saved under this heading over $2,000,000 and much human misery and pain.

Will you fail to listen when on my honor as a senator I

call your attention to the vast importance of this matter and the high standing of those who vouch for the accuracy and reliability of this statement? Will you, as the representative of the people of the United States, fail to investigate and to act in a matter of such consequence?

ORIGIN OF BILL 6049.

There are the facts; there are the authorities. Mr. President, nine years ago I had the importance of this subject called to my attention by an article read before the Cincinnati Academy of Medicine, October 7, 1901, on "Preventable Disease in the Army of the United States—Cause, Effect and Remedy," by Maj. William O. Owen, a surgeon in the United States Army, printed in the *Journal of the American Medical Association*, October 26, 1901, where he pointed out over 19,000 cases of typhoid fever in four camps—Chickamauga, Alger, Meade and Jacksonville—with 1,460 deaths of the finest young men of America, nearly all of which was a preventable loss. The typhoid cases, with resultant deaths, were due to ignoring the laws of sanitation. (Exhibit 10.) I drew this bill (S. 6049) in the hope of co-operating with the administration in making effective the most important of all forms of conservation—the conservation of human life—and in the hope of making effective the expressed desires of the numerous associations and societies of the United States who stand for a department of public health.

No man con read the Report on National Vitality—Its Wastes and Conservation, of the Committee of One Hundred, without being impressed with certain great facts:

1. The thoroughness and scientific care with which it made this report.

2. The stupendous annual loss of life which could be prevented; the immense economic commercial loss and human misery and sorrow due to preventable illness, inefficiency, degeneration and death.

3. The wisdom of the means proposed by the Committee of One Hundred for the prevention of this annual loss and for the conservation of the national life and health.

SUPPORT OF THE PLAN PROPOSED.

Mr. President, there is not in the world a more distinguished body of scientists and philanthropists than the committee of one hundred, appointed by the American Association for the Advancement of Science.

Irving Fisher, professor of political economy of Yale University, is its president. The vice presidents are: Rev. Lyman Abbott, editor *Outlook*, New York City; Miss Jane Addams, Hull House, Chicago; Felix Adler, lecturer, of New York City; James Burrill Angell, diplomat, New York City; Hon. Joseph H. Choate, ex-ambassador to England, New York City; Charles William Elliott, president of Harvard University, Cambridge, Mass.; Right Rev. Archbishop Ireland, St. Paul, Minn.; Hon. Ben B. Lindsay, Denver, Colo.; John Mitchell, New York City; Dr. William H. Welch, professor of pathology, Johns Hopkins University, Baltimore, Md.; Secretary Edward T. Devine, of the Survey; and the list of 100 contains other names as notable, including Miss Mabel T. Boardman, president of the Red Cross; Andrew Carnegie; Thomas A. Edison; Mrs. John B. Henderson, of Washington; Prof. David Starr Jordan, president of Stanford University; Dr. Charles A. L. Reed, chairman of the legislative committee of the American Medical Association, of Cincinnati, Ohio; Robert S. Woodward, president of Carnegie Institution, Washington, D. C., and a host of others no less distinguished for learning, patriotism and philanthropy.

INCREASING LENGTH OF LIFE.

The modern duration of life is widely variant, according to the organized protection of the health of the people by government.

In India the average length of life is twenty-three years, due not to climatic conditions, but to ignorance, prejudices and religious superstitions. They will not kill a snake in India, and thousands of inhabitants die annually from the poison of snake bites. In America we die in like manner from typhoid and tuberculosis, because we neglect to suppress the causes of these diseases.

The length of life in India is not increasing because of their lack of progress; but in Geneva, Switzerland, where the country is supposed to be very healthy, the length of life in the sixteenth century was only 21.2; in the seventeenth century, 25.7; in the eighteenth century, 33.6; from 1801 to 1883, 39.7, and it is steadily improving.

THE PROLONGATION OF LIFE.

Scientific hygiene and increased knowledge of the laws relating to health have had a very striking effect upon the prolongation of human life throughout the world.

At present in Massachusetts life is lengthening at the rate of fourteen years per century; in Europe, about seventeen years; in Prussia, the land of medical discovery and its application, twenty-seven years; in India, where medical progress is practically unknown, the life span is short—twenty-three—and remains stationary.

I remind you again of what I pointed out a year ago, that in New Zealand the deaths per thousands per annum is 9 and a fraction and in the Australasian states 10 and a fraction, while in the United States it is 16.5, a loss of 7 to the thousand in the United States in excess of the New Zealand rate—that is, in 90,000,000 people it would exceed 600,000 deaths that could be saved annually in our republic.

YELLOW FEVER.

Mr. President, before the American intervention in Cuba the death rate from yellow fever alone in Habana to the hundred thousand population in 1870 was 300; in 1880, 324; in 1896, 630; in 1897, 428; and after the American occupation it fell: 1900, 124; in 1901, 6; in 1902, zero; in 1903, zero; in 1904, zero.

What a glorious record! What a splendid tribute to the learning, industry and self-sacrifice of the devoted medical men who accomplished this result, most of whom are now dead. James Carrol and Lazier died from experimental yellow fever, sacrificing their own lives deliberately in the interest of their fellow-man. All honor to their names and to the names of Walter Reed and others who, brave, gallant

soldiers of peace, exposed their lives for the benefit of their fellows. Monuments of stone and of bronze should be erected to these noble patriots of peace, more noble and self-sacrificing in their work than patriots of war. What does the commerce of the world owe to these men who vanquished yellow fever? There could have been no Panama canal except for this development of science.

HOOKWORM.

I am informed by a high authority that over 90 per cent of the children of the children of one of the southern states are afflicted with the hookworm, a preventable disease, curable, at a cost of less than 50 cents apiece, with two doses of thymol and a little careful treatment; yet the disease is denied, prejudices and lack of learning stand in the way of the speedy restoration of thousands, and the voice of the men who know the habits, life, history and remedy for hookworm carries with it little power or authority to heal the unlearned patients. Only the power of the state itself, with its dignity and with its authority; only the power of the general government, with its prestige and with its high standing, is competent to impress upon the minds of the unlearned body of the people those principles of hygiene, preventive medicine and sanitary law which are essential to the preservation of the life of the American people.

PEOPLE UNINFORMED EXPOSE THEMSELVES.

With the record in Habana of the control of yellow fever there are thousands of unlearned people who ignorantly ridicule the means of the mosquito as an agency for transmitting this disease; that will deny the transmission of malaria by the mosquito.

And there are thousands who will ignorantly deny that bubonic plague is transmitted by the flea from the rat and the squirrel to the human being. The power of the government alone, acting through its strongest arm, is necessary for the prevention of a wholesale introduction into the United States of bubonic plague.

The bubonic plague is now among the ground squirrels

and rats on the Pacific coast at various points scattered over a thousand miles apart, due to the thoughtless ignorance, interest and prejudice of the commercial interests of San Francisco that suppressed the faithful and intelligent work attempted to be discharged by the officers of the Marine-Hospital service, which I may more fully set up hereafter.

The bill which I have introduced is in accordance with the earnest repeated desires of the American Medical Association, probably the largest and most honorable association of physicians and surgeons in the whole world as far as the principle of the bill is concerned. I have an earnest letter from Dr. Charles A. L. Reed, chairman of the legislative committee of the American Medical Association, which I herewith insert:

CINCINNATI, March 10, 1910.

Hon. Robert L. Owen, United States Senate, Washington, D. C.

DEAR SIR: In compliance with your request for suggestion to be taken up in connection with the hearing on the bill recently introduced by you to create a department with a secretary of health, I beg to reply in my capacity as chairman of the legislative committee of the American Medical Association. In that capacity I have the honor at the same time to request, first, that you avail yourself of an early opportunity, and in your own way, to lay before the Senate the facts which I shall present; and, second, that you arrange at an early date for a hearing on your bill, the vital principle of which is so distinctly in consonance with the interests of the people, as represented by and through the medical profession.

This is shown by the fact that the American Medical Association, through its legislative conference, attended by delegates from thirty-six states and from the army, navy and the Public Health and Marine-Hospital Service, held at Chicago, March 2, 1910, urged by resolution, as the association has repeatedly urged for nineteen years, "that a bill be passed recognizing the health interests of the country in the title of a department of the national government, and that within that department there be organized all national health agencies.

The physicians of the country, who as professional students of the question and as the natural advisors of the people on health questions, and who consequently have first

knowledge of the subject, have long maintained their present attitude for the following specific reasons:

First. The time has arrived when, under the law of precedent, the health interests of the country ought to pass from their present bureau stage of development to that of a department. This course of evolution was exemplified, first, I believe, in the development of the Department of the Interior, then that of Agriculture, and finally that Commerce and Labor. In each of these instance the antecedent bureau had existed for periods varying from a few years to a decade or two. The health interests of the country, more fundamental than all, have been left in the form of, successlvely, a "service," then of a "bureau," for more than a century.

Second. The creation of a department of health is furthermore demanded; first, because sanitary science has demonstrated its ability to conserve the efficiency and prolong the life of the people; and, second, because nothing less than the establishment of a department can have that maximum of moral force and educational influence, that maximum of prestige and effectiveness combined with buisiness-like economy of administration, that will enable it to deal with the disgraceful, not to say monstrous, conditions now prevailing in this country.

Third. That a department of health, with the fullness of power and influence that can inhere only in a department and nothing less than a department, is demanded by the conditions to which I have alluded is conclusively established by the fact that, first, about 600,000 people die in this country every year from preventable causes; second, that something more than 3,000,000 more are made ill and idle for variable periods every year from the same causes; and, third, that the annual economic loss from this source alone amounts to more than a billion and a half dollars every year.

Fourth. That nothing less than a department of health, acting in co-operation with the states and in ful. recognition of their rights and powers, is practicable for the assembling and co-ordinating of the existing health agencies of the government, and for their effective, economic and businesslike administration.

Fifth. That nothing less than the creation of a depart ment of health can comprise a fulfillmeht of the pledge to the people contained in the platform of every political party that appealed to the popular suffrage in the last national campaign.

In view of the foregoing facts and considerations I have the honor to request that at the hearing on your bill care be taken to give special consideration to the suggestions which I shall enumerate.

Many, if not all of them, have been covered in general terms, and some of them in specific terms, in your bill. It has seemed, however, that by presenting them somewhat in detail, in the form of sections to a possible bill, I could facilitate their consideration in consecutive order, as follows:

Section 1 ought to provide, as your bill does provide, for the establishment of a department of health under the supervision of the secretary of health, who shall be appointed by the President, by and with the consent of the Senate, at a salary of $12,000 per annum, and who shall be a member of the cabinet of the President, and who shall discharge the duties prescribed in the act.

Section 2 might with propriety provide for the constituent bureaus of the Department of Health, as follows:

(*a*) The Bureau of Hygiene and Preventive Medicine, to which (a) shall be transferred the Laboratory of Hygiene, now located in the Bureau of Public Health and Marine-Hospital Service in the Department of the Treasury, together with all functions, powers, rights and prerogatives now vested by law in such Laboratory of Hygiene; and it shall be the further duty of the Burenu of Hygiene nnd Preventive Medicine (b) to co-operate with the respective states, territories and dependencies in accumulating statistics and other informtion as to causes and prevalence of disease; (c) to conduct continuous investigation into all sources of danger to human health and life; (d) to formulate rules and regulations for carrying out these provisions, and (e) to publish the records and results of the labors, all under the direction and by the approval of the secretary of health.

(*b*) The bureau of Foods and Drugs, to which (a) shall be transferred all duties, functions, powers, rights and prerogatives now devolving the Food and Drug Act of 1907 on the Bureau of Chemistry of the Department of Agriculture; and the Bureau of Foods and Drugs shall also (b) supervise the cleanliness and other hygienic and sanitary features of the buildings and products of manufactories, cold-storage plants and other establishments engaged in the commercial preparation or in the storage of any food product or products whatsoever designed for interstate commerce; (c) establish standards of purity of foods; (d) conduct investigations to

determine the best method of preparing foods with reference to the full development of their nutritive value; (e) determine the food value of articles not now generally recognized as food; (f) establish standards of purity for drugs; (g) make a systemtic and exhaustive study of the medicinal flora of the United Sates and its territories and dependencies; (h) investigate and, where practicable, promote the naturalization and commercial cultivation within the United States, its Territories and dependencies, of medicinal flora indigenous to other countries; (i) publish reports of its investigations, activities, and conclusions; and (j) formulate and enforce necessary rules and regulations all under the direction of the Secretary of Health.

(*c*) The bureau of marine hospitals, to which shall be transferred the Marine-Hospital Service of the Bureau of Public Health and Marine-Hospital Service of the Department of the Treasury, together with its present personnel and all duties, functions, powers, rights, and prerogatives now vested by law in such Marine-Hospital Service, all to be administered under the direction of the secretary of health.

(*d*) The bureau of quarantine, to which shall be transferred the Quarantine Service now located in the bureau of Public health and Marine-Hospital Service of the Department of the Treasury, together with its present personnel and all duties, functions, powers, rights, and prerogatives now vested by law under such Quarantine Service, all to be administered under the direction of the secretary of health.

(*e*) The bureau of institutions and reservations, to which shall be transferred all hospitals, asylums, "homes," and infirmaries located in any other department of the Government except the Department of War and the Department of the Navy. And there shall likewise be transferred to this bureau the Hot Springs Reservation and all other reservations now or hereafter established by the Federal Government for the conservation of health.

(*f*) The bureau of vital statistics, to which shall be transferred the Bureau of Vital Statistics now located in the Department of Commerce and Labor, together with its present personnel and all duties, functions, powers, rights and prerogatives now vested by law in such Bureau of Vital Statistics.

[To be Continued.]

A GENERAL "QUIZ CLASS" OUTLINE.

I. Name and synonyms of the disease.

II. Definition—cuase (acute and chronic), characters—anatomical, clinical.

III. Varieties—anatomic, clinical, pathologic, chronologic.

IV. Etiology—1. Incidence—Statistics, (mortality, morbidity), epidemic? increasing or decreasing?

2. Predisposing.

(a) Individual factors—

1. Heredity and family diathesis.
2. Congenity and deformity.
3. Race.
4. Class.
5. Type (blonde brunette).
6. Age.
7. Sex—Pregnancy, puerperium, menstruation.
8. Size.
9. Idiosyncracy.
10. Occupation.
11. Habits—Dress, drugs, nature's duties (sleep bowels, urine), local bad habits.
12. Diet.
13. Temperament, reflexes, shock.
14. Diseases—Acute or chronic, present or past, local or general, Infectious, Constitutional, Systemic.
15. Immunity—Natural, acquired (how long lasting).

(b) General or environment—1. Geographical.

2. Residence—City or country.
3. Climate, altitude.
4. Season.
5. Unhygienic surroundings, poor sanitation.

3. Exciting—

1. Traumatic—Single, severe, multiple.
2. Chemical, Thermal, Electrical.
3. Pathological.
4. Infectious—pyogenic, specific, exanthematous, parasitic.

1. Name, cynonyms.
2. Appearances—motile, spores.
3. Stain—ordinary, Gram's special.
4. Culture, what media?—colonies, resistance, virulence (test), air! varieties (T. B.) chemical composition of the growth.
5. Inoculation—animal, toxin, anti-serum, Kock's Postulates verified?
6. Distribution outside of body.
7. Mode of conveyance—from another case to present one.
8. Mode of infection.
   (a) Portal of entry.
   (b) Mode of spread—continuity, contiguity, blood lymph, phagocyte, air, gravity.
9. Distribution—in body, secretions, health, (too?) in other diseases.
10. Mixed infections and other bacteria which simulate it; antagonisms.
11. Immunity—histogenic, anti-toxic, cyto-lytic or agglutinative (complement, immune body) phagocytic, opsonic.
12. Infectious nature—epidemic, contagion, course of disease, (Rheumatic fever).

4. Theoretical Causes—Nervous, infectious, vascular, hematogenous, special.

V. Pathology.

A. Pathogenesis.

1. Cause.
2. Mode of origin—place, manner.
3. Development at site.
4. Spread, diffusion, distribution (how?)
5. Pathologic, varieties produced.

B. Morbid anatomy.

1. Varieties (pathological).
2. Location, extent, time, number.
3. Nature of process (a general statement).
4. Gross—shape, size, surface (sss).

color, consistency, capsule (ccc), edge, margin, vascularity, cysts, special, as deposits, etc.

5. Cross section—surface, scrapings (ss), cutting, color, contents (ccc).

6. Microscopical—Parenchymal cells, connective tissue vessels, ducts, WBC-RBC, bacteria, etc.

7. Laboratory—

(1) Blood, anti- and post-mortem.

(2) Inoculations.

(3) Serum tests.

(4) Therapeutic tests.

(5) Urine, sputum, gastric contents, feces, spinal fluid, exudates.

(6) Secretions, as saliva, tears, sweat, milk, vaginal, uterine, prostatic, rectal.

8. Associated Pathology by systems (v. i.) and during treatment.

9. Complications by systems (v. i.) and during treatment.

10. Terminations, Local and by systems (v. i.) and during treatment.

C. Morbid Physiology.

1. Blood changes, as toxins, serum-reactions, anaphylaxis.

2. General function changes, as fever, jaundice, convulsions, edema, anemia, prostration, pain, etc.

3. Systemic function changes (bowels, urine, cardiovascular, nervous, etc).

4. Pressure, symptoms, displacements, etc.

VI. Symptoms.

1. Varieties, clinical; Discuss common form first—

(a) Incubation period.

(b) Prodromes.

(c) Onset.

(d) Main or cardinal.

(1) Gederal—temperature, chills, convulsions, sweats-pulse, blood pressure-respiration, cough, sore throat, dyspnoea, pain, headache., prostration, emaciation, tendencies (?) faces.

(2) Systems—Nervous, mentality, special senses, sensory, motor, reflexes, trophic, vaso.motor, spinal puncture, R. of D. Respiratory, nose, throat, odor of breath, lungs, etc.

Circulatory heart, blood, vessels, digestive including salivary, tonsils, liver, spleen, pancreas, peritoneum, genito-urinary and female, breasts, musculo, osseous, joints, marrow, lymphadenoid and thyroid, Thymus, dermal, hair, nails, mucous membranes, teeth.

(3) Physical Signs and X-ray, endoscopy, aspiration, exploration, post-mortem.

(4) Laboratory (v. s. under morbid anatomy).

(e) Course, duration, convalescence.

(f) Complications and associated diseases.

(g) Terminations.

(1) Recovery complete, with sequelae, relapses, recurrences, recrudescences, crisis, lysis, protracted.

2. Death from what different causes, gradual, sudden.

(2) Varieties—anatomic, chronologic, pathologic, symp-symptomatic.

VII. Diagnosis.

1. Direct—specific findings, cardinal signs and syndromes.

2. One variety from another.

3. Differential—main varieties from similar conditions:

(a) History.

(b) Cause.

(c) Symptoms and clinical course.

(d) Physical signs.

(e) Laboratory.

(f) Therapeutic tests.

(g) Post mortem.

(h) Negative findings.

VIII. Prognosis as to —

1. Mortality (give statistics).

2. Duration.

3. Conditions present, favorable and unfavorable. These depend upon—

(a) Variety of the disease.
(b) Cause, especially the predisposing.
(c) Pathology present.
(d) Certain symptoms.
(e) Certain complications.

4. Sequelae, recurrence.
5. Immunity.
6. Treatment.
7. Marriage.

IX. Treatment—

1. Prophylactic.

Individual and general (see predisposing etiology).

2. Active—

(a) Specific if any.

(b) Symptomatic, medicinal hygienic, dietetic, non-medicinal (hydrotherapy, massage, etc).

(c) Surgical, abortive, palliative, curative.

3. Complications.
4. After-treatment.
5. Recurrences.

N. B.—The above outline is submitted to the PLEXUS for publication with due apologies to former instruction and all who may consider they have been infringed upon.

EMERY R. HAYHURST.

COOK COUNTY HOSPITAL EXAMINATION.

Annual Competitive Tests for Prize Interneships Held March 9, 10 and 11—Twenty-two P. and S. Students Try for Places.

The annual examination for the prize interneships at the Cook County Hospital was held at the Cook County Court-House building on March 9, 10 and 11, in which about 160 medical students in Chicago competed for the forty prizes. The College of Physicians and Surgeons was represented by twenty-two seniors.

The questions were:

MEDICINE—MARCH 9TH, 2 TO 5 P. M.

1. Amœbic Dysentery.
   (a) Symptomatology.
   (b) Morphology of causative agent.
   (c) Methods of diagnosis.
2. Lobar Pneumonia.
   (a) Name the cardiac and renal complications?
   (b) Describe the nervous complications?
3. Left-Sided Pleurisy with Effusion.
   (a) Give physical findings.
   (b) How would you diagnose, whether tuberculous?
4. Acute Pancreatitis.
   (a) Symptoms.
   (b) Pathology.
5. Intussusception in Children.
   (a) Symptomatology.
   (b) Diagnosis.
6. Acute Nephritis is Scaalet Fever.
   (a) Symptomatology.
   (b) Pathology.
7. Chorea in Childhood.
   (a) Symptomatology.
   (b) Complications.
8. Arterio-Sclerosis.
   (a) Etiology.
   (b) Symptomatology referable to the heart.
9. Contrast the symptoms of myxœdema and exopthalmic goiter?
10. (a)—Symptomatology of small-pox.
    (b)—Differentiate measles, chicken-pox and small-pox.

SURGERY—MARCH 10, 2 TO 5 P. M.

11. Describe the surgical anatomy involved in the removal of the right half of the lower jaw?
12. Colle's Fracture.
    (a) Pathology.

(b) Diagnosis.
(c) Treatment.

13. Sarcoma of Head of Humerus.
    (a) Pathology.
    (b) Diagnosis.
14. Fracture of Patella.
    (a) Pathology.
    (b) Diagnosis.
    (c) Treatment.
15. Felon on Thumb.
    (a) Pathology.
    (b) Treatment.
16. Carcinoma of Sigmoid.
    (a) Diagnosis.
    (b) Surgical treatment.
17. Tuberculosis of Right Kidney.
    (a) Diagnosis.
    (b) Treatment.
18. Surgical anatomy of the thyroid gland.
19. Differential diagnosis of fibroids of uterus.
20. Gastric Ulcer.
    (a) Indication for operation.
    (b) Clinical evidences of perforation.

OBSTETRICS AND SPECIALTIES—MARCH 11, 2 TO 5 P. M.

21. Indications and contra-indications for the use of forceps.
22. Indications for induction of labor after the sixth month.
23. Cæsarian Section.
    (a) Indications.
    (b) Describe such an operation?
24. Diagnosis and management of twin pregnancy.
25. Tuberculosis of Hip.
    (a) Diagnosis.
    (b) Treatment.
26. Knock-Knee.
    (a) Etiology.

(b) Pathology.

27. Scabies.
    (a) Etiology.
    (b) Pathalogy.
    (c) Diagnosis.
28. Differential diagnosis of gonorrheal Epiedidymitis.
29. Glaucoma.
    (a) Pathology.
    (b) Diagnosis.
    (c) Treatment.
30. Adenoids.
    (a) Pathology.
    (b) Diagnosis.
    (c) Treatment.

The following P. and S. students wrote the examination: Quiz Class Men—McNealy, Nickel, Bentzien, Stone, Smith, Sword, Reedy, Thompson, McGarry; Miss Dale, Kara, Miss Carroll, Miss Davis, Epstein, Shaefer, Soelsberg. Non-Quiz Class Men—Charboneau, Currer, Hercik, Rothwell, Leahy and Rogers.

MICHAEL REESE HOSPITAL EXAMINATION.

Held March 1st and 2d.

The questions were:

MEDICINE—MARCH 1ST, 9 TO 10 A. M.

1. Name the enlargements of the liver?
2. Differentiate the diseases simulating typhoid.
3. Lobar Pneumonia.
    Symptoms.
    Diagnosis.
    Indications for treatment.
    Complications.
4. Describe briefly Adams Stokes' disease?
5. Cardinal syptoms of
    Tabes dorsalis.
    Huntington's chorea.
    Cerebellar tumor.

Multiple neuritis.

SURGERY—10 TO 11 A. M.

1. Diagnosis and differential diagnosis in all stages of acute pyogenic osteomyelitis.
2. Compound Fracture. Tell briefly what you would do when patient enters hospital? Give symptoms and treatment of the complications which can occur.

OBSTETRICS—11 TO 12 M.

1. Indications and contra-indications for high forceps.
2. Give treatment for eclampsia.
3. Under what conditions would you do
   (1) A pubiotomy?
   (2) A Cæsarian section?

PEDIATRICS—2 TO 3 P. M.

1. Define:
   (1) Achondroplasia fetalis.
   (2) Atelectasis.
   (3) Vernix caseosa.
   (4) Barlow's disease.
   (5) Cryptorchismus.
   (6) Vincent's angina.
   (7) Bednar's apthæ.
   (8) Convallaria majalis.
   (9) Hutchinson's teeth.
   (10) Status lymphaticus.
2. Lobar Pneumonia in Children.
   Symptoms.
   Diagnosis.
   Treatment.
3. Acute Anterior Poliomyelitis—Etiology, symptoms, diagnosis, prognosis and treatment.

GYNECOLOGY—3 TO 4 P. M.

1. How would you determine the operability of uterine carcinoma?
2. Differential diagnosis between
   Unterne fibroma.

Cysts of ovary.
Pregnancy.
Inflammatory diseases of the tubes and ovary.

PATHOLOGY AND CLINICAL MICROSCOPY—4 TO 5 P. M.

1. Describe briefly the laboratory aids for diagnosis of typhoid fever?
2. Name the substances you would examine for in the urine in a known case of diabetes?
3. How would you distinguish, by means of a blood examination, between chlorosis, pernicious anemia and secondary anemia.
4. Describe a reliable test for occult blood in the feces?
5. On what points would you base your diagnosis of malignancy?

All day March 2d was given to an oral examination, which consisted of fiqe departments: 1, Medicine; 2, Surgery; 3, Obstetrics and Gynecology; 4, Pediatrics, and 5, Pathology and Clinical Microscopy. From five to fifteen questions were asked each individual in each subject.

Fifty-eight competitors took the examination, most of whom were from Northwestern. Six students represented P. and S., two of whom made places, Mr. Rich and Mr. Cohn. Six internes are accepted each year. Mr. Kara is next on the list.

There was a question among the quiz class men whether it was a fair deal to compel the successful competitors, under word of honor, not to write any further hospital examinations or forfeit their positions at the Michael Reese. This barred them from the excitement which the Cook County Hospital examination had in store for them, as both of these men were quiz class students and were preparing to take the county examination.

ST. LUKE'S HOSPITAL EXAMINATION.
Held March 5th.

The questions were:

MEDICINE.

1. Contrast the physical signs of consolidation of the right lower lobe with those of pleurisy with effusion?

2. Under what circumstances would you test for occult blood in the stools? Describe the procedure you would employ?
3. Contrast the clinical picture of acute articular rheumatism in childhood and adult life? Name the commoner complications?
4. Give the dose and indications for the administration of thyroid extract?

SURGERY.

1. Diagnosis and treatment of hemorrhage of traumatic origin?
2. Causes and symptoms of acute intestinal obstruction?
3. Differentiation between fracture of the neck of the femur and dislocation of the hip?

OBSTETRICS.

1. Give the differential diagnosis of ovarian cysts?
2. Classify and describe the varieties of endometritis?
3. (a) Give indication and conditions for the use of forceps?
   (b) Describe technique of application in O. L. A. head engaged?

Five men from P. and S. College wrote the examination at St. Luke's Hospital, and from this number one place was made by Paul M. Currer, who stood fifth on the list. Seven internes are accepted. As Mr. Currer was not a quiz classman, and in recognition of the fact that he wrote against the "cream" of the Northwestern students, we think we are highly honored with his work. This is the first interneship P. and S. has secured in St. Luke's Hospital since 1904.

THE PLEXUS.

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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Send contributions to Oliver S. Olson, Editor, P. & S. College, Chicago.

SENIOR CLASS NOTES.

Sample invitations for commencement are being shown to the class and orders are being taken. The class picture will soon adorn its inherited space on the walls. Mr. McNealy is preparing his valedictorian address, and Mr. Rich says he will soon be busy as a class prophet. The atmosphere about the Senior class rooms gives one the peculiar sensation of loneliness. The class is scattered. Some are busy as internes or externes at various hospitals; others are writing examinations for interneships; and those who have

worked hard through the previous four years are resting now and enjoying those rewards that hard work brings one, while those who have not expended such energy before are now plugging hard in preparation for state board examinations and various finals in school.

Dr. Lysdston is lecturing on surgery of the genito-urinary tract this month, and will be followed by Dr. Ferguson on hernia and Dr. Eisendrath on anæsthetics.

The excitement afforded by the present junior politicians in reference to the election of their Senior class officers gives us both a feeling of regret and happiness—that we do not have to pass through such ordeals any more.

On Monday, March 7th, Dr. Emil Beck held a clinic in the clinical amphitheatre, principally to demonstrate his bismuth vaseline paste for chronic semises and tubercular fistulas. He not only showed various X ray pictures and stereoscopic views, but demonstrated the technique of his paste on a number of patients.

Senior flunk slips appeared upon the scenery behind the cashier's glass cage on March 11th. There was some weeping and wailing, etc., among our intended graduates, as well as a liberal contribution of the balmy salve of consolation.

Seniors who intend taking the examination for internes in the various state institutions for the insane must have their applications in Springfield by March 25.

Dean Byron Cummings, of the University of Utah, was in Chicago on February 19th, to lecture on American Archæology. Before he lectured at the University of Chicago he was tendered a banquet at the Commons by the Utah Students' Club, of which Mr. Rich, of the Senior class, and Mr. Brown, of the Freshman class, are members.

The factional fight in the Senior class is still raging, and at the present time involves itself about the class picture. Many members have refused to sit for pictures until

the executive committee agrees to reserve a certain section for them, it is claimed. The chances of reaching any agreement in the few remaining weeks seem rather small, and the result may be that the class picture will adorn the walls with more than fifty men shy.

Dr. Fisher is just finishing the subject of refraction. It has been very interesting, and there has been more apparent enthusiasm than in the medical course.

McGarry, Jeffs, Thomas, Rich and Rothwell have secured interneships in the Los Angeles County Hospital.

Miss Boren and Mrs. McGarry have received appointments as internes to the Alexandra Hospital at San Francisco.

It is evident that the majority of the Seniors made a great hit in disease of chest! At least one would think so from the strong encore.

All Seniors should place their orders for invitations in at this time, to save considerable trouble.

The A. F. and A. M. of the college are making great preparation for a large banquet, to be given in the near future.

Kyle has been making frequent visits to the office since it was reported that the flunk slips would soon be out.

It is rather amusing to watch the great change that has been coming over the class in the past two months. Every day brings forth some one in a new English walking suit and a scrubby bunch of spinage on his chin.

JUNIOR CLASS NOTES.

There has been very little school this week on account of the election craze, and we expect Dr. H. I. Davis will have a large clinic hereafter, as several students showed signs of weak mentality early in the weak.

Desser, after being elected fair and square, lost out on a technicality.

The Senior election was March 14. Cæsar got his March 15.

Who will acquaint Mr. Sullivan with the duties of his new office?

What's the lesson for tomorrow?

Some were here Monday night; others were there.

This election proved that many men can't think for themselves. What are you going to do when you get into practice, you fellows who are going out to represent the best interests of your community?

Well, Dr. Earle, be lenient with the poor fellows.

Cahanna jumped on the wagon.

Chapter 3, verse 23: Blessed is the man who uses his nut.

Doyle looked like the pole-horse for quite a while, and lost by one vote.

March 14 will be long remembered by the Juniors, for what proved to be the most exquisite knifing exhibition ever staged in the P. and S. was pulled off that morning. All forces were mustered for weeks in advance, but the result was in doubt till the last minute. After a most brilliant display of fireworks and several exchanges of pleasant greetings (?) we got to business and elected the following officers: President—Gratzek, 47; Burt, 42. First Vice President—Bishkow, 48; Fouts, 41. Second Vice President—Brineo, 47; O'Brien, 41. Secretary—Zimmerman, 45; Damron, 44. Treasurer—Huyser, 49; Elliott, 40. Valedictorian—Vilna, 45; Hammond, 43. Salutatorian—Sullivan, 47; Valentine, 42. Chairman Executive Committee—Hagie, 46; Boone, 43. Members—Wilson, 56; Sanders, 55; Barding, 50; Kelleher, 48; Murphy, 43; Fox, 43; Doyle, 42; Pollard, 42; Frogner, 40; Eggermayer, 40; Carter, 38; Shaynin, 34. Editor—Way, 45; Dresser, 44. Assistant Editor—Cahanna, 54; Fuchsman, 35. Prophet—Stober, 46; Schoenlaber, 43. Artist—

Henderson, 48; Hamnett, 41. Historian—Peterson, 46; Czaja, 43. Poet—Cragin, 45; French, 43. Chaplain—Blunk, unanimous. Sergeant—Harrison, 46; Smith, 43. Assistant Sergeant—Halloway, 52; Hallberg, 34.

Mr. Valentine's mother died March 14. The Junior class extend their sympathy to our classmate in his grief.

SOPHOMORE CLASS NOTES.

While Dr. Fantus was conducting a demonstration of electrical apparatus a few days ago we noted a strained and painful expression on the face of Mr. Raub. At last he succeeded to that weakness of the flesh which we all inherit and asked: "Doctor, kindly inform me what that instrument costs?" A look of disappointment clouded his brow when the price of the instrument in question was quoted at $85. He was probably thinking of the other things he could do with $85.

Dr. O'Byrne: "Neither the aduentitis or media is thickened in endurteritis." Can you tell us, Mr. Parker? Mr. Parker (not B. B. Parker): Why, I think, doctah, it must be the middle coat.

At the present writing Bathhouse John is busy with class politics, and does not care whether an amœba has an operculum, or whether it is warmer in the summer than it is in Chicago. He is confident that March 16th will see a real warm time in room 305.

CLASS ELECTION.

The election of class officers for the coming year was held March 16th. Although party lines were drawn closely, the best of feeling prevailed throughout. The spirit of oratory was in the air, and as the different men were placed in nomination by their enthusiastic champions we were treated to gems of rhetoric seldom heard except on St. Patrick's Day and July 4th. Mr. Rhine nominated Mr. S. A. Donahue for president, painting him in true but gorgeous colors. Mr. Sima in a short, epigrammatic speech nominated Mr. R.

C. Sullivan, a young man who has the respect of every one. The ballot, quickly taken and eagerly counted, gave Mr. Donahue 79 and Mr. Sullivan 46.

For vice president Mr. Butterfield was elected by a vote of 73 over Mr. Wilson, who received 50.

Miss Rowland for secretary ran like a prohibition candidate in Oklahoma, defeating Mr. Stusser by 89 to 36 votes.

The votes for treasurer were: Mr. Guild, 75, and Mr. Fleeger, 49.

For class editor! L. M. Kane, 71; Mr. Dwyre, 52.

Mr. R. E. Green, in reward for his honorable services so cheerfully given, was elected sergeant-at-arms over Mr. Michell.

Mr. Flexor also ran.

T. B. TUBERCLE.
BY STEIN.

Der giant cell stood on der burning deck
Eating round cells by der peck.
A bunch of leucocytes came by
And said: "We'll take a T. B. fry."

FRESHMEN NOTES.

Sympathy is extended to Dr. Wynekoop and family in their late bereavement.

In the recent written anatomy review the best papers were composed by Miss Iscbam, Mr. Stein, Mr. Salk, Mr. Sharp, Mr. Hruby, Mr. Peterson, Mr. Koffler and Mr. Baskin.

Among the amusing things written by some of the D. J.'s came a differentiation of a male from a female thorax with the statement that "the female thorax is not so firmly bound together, and makes better loving." Some one else in describing the anterior surface of the sacrum said, "It is divided into three parts, manubrium, gladiolus and appendix and has facets for ribs." Of course they knew better, but just did not think straight.

Illustrating some of the recent plays:

The Follies of 1909—The present Freshmen class.

Paid in Full—The recent double examination in anatomy

The Climbers—Zealous Freshmen going to their beloved

They Loved a Lassie—Mr. McCornack, Mr. Sharp, and dissections on the fourth floor.

Miss (?)

The Love Cure—Anatomy.

Such a Little Queen—Little Miss McCann.

A Woman's Way—Miss Lukas' behavior in the histology laboratory.

The Flirting Princess—Miss Hergert.

Seven Days—Represents the time put in by studious (?) Freshmen.

Polly of the Circus—Miss Goodrich.

The Great Divide—A Dissection Quiz.

The Mother—Miss Beem does have a most strenuous time taking care of those Freshmen girls.

IMA FRESHMAN,

ALUMNI NOTES.

A son was born to Dr. and Mrs. R. B. Essick, of Murphysboro, Ill., on March 16. Dr. Essick graduated from the P. & S. College in 1908, and was assistant editor of his class during the Senior year. Young Essick is to receive a M. D. degree from the same college some day, say the proud parents.

QUINE LIBRARY NOTES.

Since the beginning of the year fifty nine books have been added to the Library, of which number about one-half came from the Medical Library Exchange, which is supported in part by the various medical libraries belonging to the Association, and in part is endowed by Dr. Osler and Dr. Musser.

Dr. Byford sent a valuable donation of Medical Journals and Transactions, as he has done each year since the library was started. Some of our most valuable sets of Obstetrical

and Gynecological Journals are due to Dr. Byford's kindness in each year sending the volume for the year just preceding.

Dr. Santee is another member of the faculty who makes an annual contribution of several valuable sets of Journals.

Fourteen volumes have been sent to the library by various State and National Medical Societies which issue their Transactions in book form.

Mr. Reedy, of the Senior class, presented to the Library a copy of Edward's Practice of Medicine.

A much valued addition is the Index of the first fifty volumes of the Annals of Surgery.

The following articles, which have been noted in various medical journals, will be of special interest to the students of the College of Physicians and Surgeons, as they were written by various members of the faculty:

Dr. D. N. Eisendrath—Ileus due to Meckel's Diverticulum. Annals of Surgery, Dec., 1909, page 1278.

Dr. A. J. Ochsner—Prevention and Inhibition of Peritonitis, with Special Reference to the harm done Cathartics in Incipient Periotinitis. Boston Medical and Surgical Journal, Feb. 10.

Dr. E. H. Ochsner—Bullet Extracted from the Hip Joint. Surgery Gynecology and Obstetrics, January, page 99.

Dr. C. W. Barrett—Recognition and Treatment of Extrauterine Pregnancy. Medical Record, Jan. 22, page 133.

Dr. H. T. Byford—Practitioner and Specialist. Chicago Medical Recorder, Dec., 1909.

Dr. F. Tice—Tubercle Bacilli in the Circulating Blood. Illinois Medical Journal, January, page 24.

Dr. E. H. Ochsner—Surgical Treatment of Chronic Arthritis. Journal of the American Medical Association, March 5, page 77.

Also the following article by two graduates—Dr. Pollock, '06, and Dr. E. B. Jewell, '07. Situs Viscerum Inversus Totalis. Medical Record, Jan. 22.

There are many inquiries this time of the year regarding what may be found in the Library pertaining to State Board

questions, and the dates of examinations, etc., etc. To all such inquirers we would suggest that they look over the department entitled "State Medical Licensing Boards," which appears regularly in the Medical Record. Since the beginning of the year this journal has published the following lists of questions with the answers:

Jan. 1. Questions and answers of the Idaho State Board.

Jan. 15. Questions and answers of South Dakota State Board.

Jan. 29. Questions and answers of the West Virginia State Board.

Feb. 12. Questions and answers of the Florida State Board.

Feb. 26. Questions and answers of the Nebraska State Board.

Y. M. C. A. NOTES.

By A. F. Benson.

From Benjamin Franklin's diary we read the following:

"For my own part, when I am employed in serving others, I do not look upon myself as conferring favors, but as paying debts. In my travels since my settlement I have received much kindness from men and numberless mercies from God. Those kindnesses from men I can therefore only return to their fellow-men; and I can only show my gratitude for these mercies from God by my readiness to help my brethren. For I do not think that thanks and compliments, though repeated weekly, can discharge our real obligations to each other, and much less those to our Creator."

The sentiment expressed in the above reveals the inner nature and principle which molded a great life as that of Benjamin Franklin.

He only is great of heart who floods the world with great affection. He is only great of mind who stirs the world with great thoughts. He only is great of will who does something to shape the world to a great career. And he is the greatest who does the most of all these things, and does them best.

SCHOOL OF PHARMACY.

OF THE UNIVERSITY OF ILLINOIS.

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WILLIAM B. DAY, EDITOR.

ALUMNI NOTES.

The class of 1885 will celebrate its 25th anniversary this year and plans are being made to have a reunion of the class at the alumni banquet, which will be held Thursday evening April 28th. The class of 1885 was the largest graduated by the college up to that time, and the first class to be graduated from the then new building on State street.

Of the sixty-two members of the class the committee has the addresses of forty-six. Several of the out-of town members of the class have signified their intention of attending, and it is hoped to surpass the very successful reunion of the class of '84 last year.

W. T. Klenze, '85, has taken back his drugstore at Seminary and Belmont Avenue, which he sold a few months ago.

At the January examination of the Illinois Board of Pharmacy, E. E. Luken, '08, F. H. Ruicker, '07, Hugh McCaslin, '06, and J. E. Sisk, '09, were granted certificates as registered pharmacists.

At a recent meeting of the Denver branch of the A. Ph. A., Mr. L. L. Alkire, '03, read a paper on "Antidiphtheritic Antitoxin and Globulin," which was well received and is published in full in the "Rocky Mountain Druggist" for February.

John Robinson, '06, has bought the pharmacy of F. F. Fritz, '09, at Earlville.

C. V. Green, '96, has purchased the drug store of C. R. Yundt, '07, at Evanston and Belmont Avenues, Chicago.

C. A. Sankiewicz, '04, has sold his drug store at 545 Milwaukee Ave., Chicago, to B. T. Rozanski.

G. A. Knoblauch, '88, has been succeeded at 3158 Lake Street, Chicago, by A. G. Castor.

H. G. Skinner, '08, recently passed the state examination for registered pharmacist in California.

The annual meeting of the American Pharmaceutical Association will be held at the office of the school on Thursday evening, March 24th. At this meeting the election of officers and the arrangements for the annual reception and banquet to the graduating class will be the important business. The association has had a prosperous year, and thi officers look forward to an enthusiastic meeting, and are planning to make the banquet an unusual event, both in attendance and in entertainment.

HONORARY FRATERNITY BANQUET.

The annual banquet of the Alpha Omega Alpha, the honorary medical fraternity, was held March 1, at the Great Northern Hotel. The chapters from the College of Physicians and Surgeons, Rush Medical and the Northwestern Medical Colleges were represented.

Dr. William E. Quine, Dean of the P. & S. college officiated as toast-master. The speakers of the evening were Dr. C. S. Williamson and Dr. Bayard Holmes, of P. & S., Dr. W. S. Hall, of Northwestern, Dr. Waite, of the Western Reserves, Dr. Meyer, of Indiana University, and Dr. Novi, of Michigan.

The following members of the class of 1910 were elected members: B. G. Sargent, F. W. Nickel, F. L. Stone and H. W. Sword. Those of the 1911 class who were honored were W. C. Hammond, F. E. Hagie, A. Schoenleber and N. R. Sullivan.

IMPORTANT NOTICE.

Those of our readers who are interested in the various forms of physiologic therapeutics (including hydrotherapy,

electrotherapy, massage, hyperemia, etc.) will be glad to know that it is proposed to shortly inaugurate a new journal devoted solely to the delineation of the progress made in these lines of therapeutic endeavor.

The American Journal of Physiologic Therapeutics will be published bimonthly, and the subscription price will be $1 a year. The names and addresses of all interested physicians should be sent in, and those desirous of subscribing at once may enclose their remittance when writing. It is to be hoped that a widespread interest may be aroused in this matter. Write now, while this is fresh in your mind, to *The American Journal of Physiologic Therapeutics*, 72 Madison St., Chicago.

ILLINI CLUB OF CHICAGO ESTABLISHES A MONTHLY BULLETIN.

The Illini Club of Chicago, which is composed of graduates and former students of the University of Illinois, has established a monthly publication called the *Illini Club Bulletin*, the first issue appearing this month. The editor of the new magazine is Avery Brundage, '09, 1618 Monadnock Building.

The following clipping from the *Bulletin* explains the purpose for its establishment:

"With this number the *Illini Club Bulletin* makes its initial appearance. The idea of issuing a monthly publication of this kind for distribution among the Chicago graduates and former students of the University of Illinois has been under contemplation by the executive board for some time. It was felt that there was need of a medium of this character to communicate interesting news to the great body of Illinois men in this city, to keep them in touch with one another, with the affairs of the Illini Club and with the University. It will be the purpose to publish in this little pamphlet hereafter whatever of interest may arise, with no very definite policy in view. Here will be published the reports of the more important committees, such as that appearing on page 5 of this issue. The intention is to publish a calendar of the more important athletic events, so that the members can keep in touch with this always interesting phase of undergraduate activity. The editor of the *Bulletin* or the officers of the club will welcome any suggestions from members for the improvement of the paper. Every member should assist in making this Club enterprise more successful by contributing notes and items of interest."

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COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

CHICAGO.

VOL. XVI. BATAVIA, APRIL 20th, 1910. NO. 4

NINE P. & S. MEN LAND COOK COUNTY HOSPITAL INTERNESHIPS.

R. William McNealy Makes First Place, and Three Others are among Top-Notchers; Twenty-five Per Cent. of New Internes are Illinois Men.

As a fitting climax to its career in the College of Physicians and Surgeons the Class of 1910 has erected for itself a praisewortey monument; one which will long be remembered, and which will serve as an inspiration and impetus to classes for the year following, for it has established a record in true scholarship.

This record was made during the civil service examination for interneship in the Cook County Hospital, in which more than 160 representative students from the leading medical schools of Chicago participated.

The first place in this examination was made by William McNealy, a P. & S. man, whose average throughout the examination was 89.9 per cent. His nearest competitor was over 3 points below him, a margin greater than that between the second and seventeenth places. Out of the eighteen P. & S. men who took the examination nine made places, four of whom landed within the first seven.

The successful men are: R. W. McNealy, first place; Frank William Nickel, fourth place; Gordon Graham Thompson, B. S., sixth place; Sidney Albert Smith, seventh place; Emil William Bentzien, sixteenth place; Charles Patrick

McGarry, thirtieth place; Daniel William Schafer, thirty-third place; Frank Lee Stone, thirty-fifth place; Howard Russel Sword, thirty sixth place.

Only forty interneships are to be filled this year, and of these the P. & S. furnishes twenty-five per cent., for by the time the last group of new internes enter the hospital John M. Kara, who captured forty-fourth place, will undoubtedly

R. WILLIAM McNEALY.

have reached a coveted place, as some will drop out before the interneships begin. Miss Edna V. Dale made fiftieth place, while Miss Elizabeth D. Carroll made fifty-first place.

While much was expected of the Senior Quiz Class men this year, there were few who even dared hope for such an excellent showing as was made. The success of the Quiz Class is largely due to the efforts of the individual members, for it was only through their manifestations of enthusiasm

that they were able to secure competent faculty men to conduct the classes.

The result of this year's work has been the planting of the seeds of ambition and determination in the members of the lower classes, which will bear fruit in the early future. Already the Junior Class has started its quiz class, and every member is imbued with a spirit of success. Among the Sophomores and Freshmen there are but few who have not already set their eyes toward the County, which means that there is to be a higher standard of scholarship throughout the entire course.

In comparing the record made by the P. and S. men to those of students of other Chicago medical colleges it is but a fair conclusion to draw that the medical department of the University of Illinois is a leader. Less than 50 per cent. of the Rush men who took the examination were successful, while Northwestern made a smaller percentage, her first man landing eighteenth place.

R. WILLIAM McNEALY.

R. William McNealy was born in Clark County, Missouri, August 17, 1887. At an early age he moved with his parents to Burlington, Iowa, where he attended the common schools, and later graduated from the high school.

During his preliminary education Mr. McNealy showed no particular inclination to devote all his time to studying, preferring rather to win laurels on the baseball diamond and the football gridiron. In these he was successful, as the Burlington high school records show.

But a change came over the young man when he entered the College of Physicians and Surgeons, and in a short time he manifested a remarkable aptitude for study. He threw into his studies his entire efforts, and almost buried his heart and soul in the task of acquiring a medical knowledge.

His ability to master the subjects soon attracted the attention of his instructors, and in every way he received assistance and encouragement from them In his Freshman

year at the P. & S. he received honors in biology, histology and embryology.

As an appreciation of his ability as a student he was elected during his Junior year a member of the Alpha Omega Alpha, the honorary medical fraternity. In the Senior year he was elected its secretary and treasurer. As a further recognition of scholarship his classmates at their last election chose him valedictorian.

Mr. McNealy was one of the leading lights in the Senior quiz class, and it was largely through his hard work, his persistent efforts and determination, as well as his cheerfulness and encouragement, during its entire course, that it was so successful, for many looked upon him as a good standard to follow.

That he landed first place in the Cook County Hospital was not much of a surprise to his friends, for even at the beginning of the college year he was picked out as a winner.

Early in the spring he made first place in the University Hospital and second place in the West Side Hospital. He accepted neither position.

He is a member of the Eta Chapter, Alpha Kappa Kappa Fraternity.

MEDICAL STUDY IN EUROPE.

By Bernard Fantus, M. D.

Article VI. Medical Study in Paris.

The opportunities for post graduate study are not as well systematized in Paris as they are in Vienna or in Berlin.

One must find the opportunities for one's self. A knowledge of French is indispensable.

Paris excels most especially in facilities for the study of bacteriology, surgery, skin and genio-urinary diseases, and of diseases of the nervous system. The celebrated Pasteur Institute gives a four months' course once a year on practical laboratory technique that is probably not equaled anywhere else in the world. There exists also in Paris a most perfect system for the teaching of surgical technique on the cadaver;

and, owing to the freedom with which medical men are admitted to the hospitals, it is possible to come in closer contact with the surgeons and their patients, and to obtain a closer view of operations, than one can generally get elsewhere. For the study of dermatology the St. Louis Hospital and the celebrated Baretta collection of wax models of skin diseasses offer unexcelled opportunities; while the Salpetriere, a hospital of 3,000 beds, is the world's most renowned center for the study of nervous diseases.

As in Germany, the French medical schools and hospitals are government institutions. But France has eclipsed its competitor, Germany, by the close union that exists between the hospitals and the medical school, by which it is possible for the university to place each and every medical student, for the greater part of his student life, in the hospital wards, and thereby to obtain for him that immediate contact with the sick that constitutes the perfection of opportunity for medical training. Bedside instruction is here most highly developed.

To enter the French medical school the regular medical student is required to have a bachelor's degree. Then, after pursuing theoretic and laboratory studies for one or two years, he becomes eligible to examination for hospital externeship. The student then enters upon a three years' service in a hospital, where he obtains his clinical instruction; the hospital and laboratory work being obligatory, while attendance upon lectures is optional. Finally, to obtain his degree of M. D., he must do some original work, and present and defend a thesis.

In the appointment of the hospital staff and of the medical teaching faculty the concours, or competitive examination, plays the determining role. After having served in a hospital as externe for three years the young medicus may secure a three years' hospital interneship on passing a most severe competitive examination; there being usually over 600 applicants for 60 positions. To become a hospital physician, or attending man, as we would call him, one must

have been an interne, and have successfully passed a competitive examination, the competition in which is so fierce, as these positions, though without pay, are highly prized for making both social and professional success assured, that men have to spend from eight to ten, and sometimes more, years in preparing for it. The result is that the hospital staff is made up of the elite of the medical profession; and upon this staff devolves a good deal of the instruction of the medical students. To obtain a university connection further competitive examinations have to be passed; until finally a professorship, the highest goal of professional aspirations, may be reached by the brainiest, the most brilliant, the most industrious and the most determined.

To obtain admission to all the hospitals and clinics all the foreign physician has to do is to obtain a card from L'Assistance Publique, though even this card is seldom needed. By buying a copy of "Hopitaux et Hospices de Paris" in any medical bookstore one can obtain a list of the clinicians and the clinics, and by introducing one's self to the clinician one desires to work with one may get almost any work one may desire, and usually free of charge. For advice, aid and sociability it is well to connect one's self with the Continental Anglo-American Society, 1 Rue Agnesseau, and the American Art Students' Association, 74 Rue Notre Dame des Champs, Paris.

THE RECOGNITION AND TREATMENT OF ECTOPIC GESTATION.

By Channing W. Barrett, M. D., Chicago.

Gynecologist to the Chicago Polyclinic School and Hospital; Associate Professor of Gynecology, Medical Department, University of Illinois; Gynecologist to Henrotin Memorial Hopital; Obstetrician, Cook County Hospital.

The common saying that "A disease known is half cured," has nowhere greater significance than when applied to extrauterine pregnancy. The word picture of this pathological condition, that will lead to its clinical condition, has not been

painted. It is not that there is lack of literature upon the subject, nor that valuable descriptions are wanting, but rather the difficulty of reproducing from didactic study a cliyical picture which has such typical manifestations on the one hand and such wide and numerous variations on the other.

That the diagnosis is not made is shown by the fact that a large percentage of my cases have been previously treated as cases of abortion, and further by Heineck in his study of cases at Cook County Hospital, in which hospital the cases, if diagnosed, go to the service of surgical obstetrics. He shows that in a series of thirty-two cases twenty-five cases were operated in the general surgical service and seven cases in the service of surgical obstetrics.

It is with no thought of producing a more perfect picture, but rather to view the question from the angle of personal experience with a background of authenticity, and, if possible, to stimulate the members of this society to a more ready recognition of the condition, that this paper is presented. That phase of the treatment which has been emphasized of late—namely, the non-operative treatment when the patient is in collapse following rupture, also deserves careful analysis at the hands of this and every other body of medical men.

No exhaustive discussion of etiology and pathology may be attempted at this time, and yet no study of the diagnosis and treatment is comprehensive that does not have a pathological foundation, and this again takes us back to pathological conditions existing before the pregnancy—the etiology Tait and Schroeder and other early observers thought that extrauterine pregnancy had to be accounted for by some condition which allowed the spermatozoa to travel up the tube. They taught that the spermatozoa were carried to the uterine mouth of the tube by the upward wave of the cilia of the epithelium of the uterus, and that the ovum was brought to this point by the downward wave of the cilia of the epithelium of the tube. Hofmeier, Mandl and others have

shown that the current is downward from the outer end of the tube to the cervix, and that the spermatozoa have to and do travel against this current from the cervix upward into the tube where pregnancy takes place. Our theories of etiology, then, do not have to account for the impregnation of the occasional ovum outside the uterus. Every pregnancy is to be looked upon as extrauterine in the beginning, and we might justly question why so many ever reach the uterus. While the spermatozoa have motility and travel against the current created by the cilia, yet the current and tubal peristalsis are looked upon by most authors as having an important bearing in the migration of the ovum. The etiological factors, then, must be such conditions as will prevent or retard migration of the impregnated ovum, or such conditions as will furnish a more ready implantation of the ovum, or both.

We may have the migration of the ovum retarded or prevented by (1) absence or diminution of the cilial wave; (2) absence or diminution of peristalsis; (3) tortuosity; (4) constrictions, kinkings and narrowing of the lumen; (5) blind pockets; (6) transmigration of the ovum; (7) tumors in the wall of the tube and polypi in the lumen of the tube.

Abel, Kreisch, Runge, von Franque and Garkish, and later Hohne, have laid stress upon congenital hypoplasia as an important factor in bringing about the above conditions. Duhrssen attaches some importance to puerperal hyperinvolution as a factor in narrowing the tube and lessening peristalsis. Evidence is abundant, however, to show that affections of the tube, and especially gonorrheal affections, with their resulting inflammatory reactions, are the frequent cause of the above conditions. Virchow, Schroeder and Tait first pointed out the importance of this, and their views were corroborated by a long list of able observers, among whom may be mentioned Martin, Kustner, Olshausen, etc. Sixty-eight and seven-tenths per cent. of Duhrssen's cases and sixty per cent. of Mandl and Schmidt's cases had had gonorrhea. Ott and Petersen's cases all gave history of inflammation. It is

doubtful if the cilia are ever as agile in a tube once involved with gonorrheal infection; peristalsis is crippled, tortuosity is marked, constrictions, kinkings, narrowing of the lumen and pathological pockets are marked features. There has been in my cases no etiological factor so prominent as previous pelvic disease, and that previous pelvic disease in about seventy-five per cent. of the cases was presumably gonorrhea. Mrs. H. developed an acute gonorrheal affection a few days after marriage. Severe tubal infection, with extensive reaction, more marked on left side. Two years later tubal pregnancy on right side, with marked evidence of old inflammation. Large pus tube, with outer end closed, on left side. Mrs. S., prostitute, 5½-month fetus, living. Extensive pelvic adhesions on both sides. Mrs. H., examined one year before extrauterine pregnancy occurred. Uterus retrodisplaced, tubes and ovaries enlarged and matted together. Had had a previous operation. Feared extrauterine pregnancy, and developed it one year later. Mrs. R. gave birth to a child seven months previous to development of extrauterine. Birth of child followed by acute pelvic inflammation on the right side; tubal pregnancy on same side. Mrs. F.'s first pregnancy was tubal on right side. At operation evidence of old adhesions was found on right and left side. Four years later operated for extrauterine on left side, etc. Many women who have had gonorrhea are sterile because of closure of the tube or because the ovum fails to find lodgment; but of those cases in which the impregnated ovum finds attachment the percentage of extrauterine pregnancies far exceeds the percentage in women who have not had an infection.

It may be urged, as a reason for extrauterine pregnancy in these cases, that these tubes furnish a more ready lodgment than do normal tubes. But against this theory is the fact that a normal uterus furnishes a more ready lodgment for the ovum than the diseased uterus. It is not consistent to believe that the inflammatory process, which unfits the uterus for implantation of the ovum, will better prepare the

tube to act the part of host. We are forced to belive, then, that tubal inflammations play an important part in laying the foundation for a tubal pregnancy, but that it does so by interfering with migration, rather than furnishing a more ready field for implantation by reason of the inflammation.

Place of Implantation.—Tubal implantation may occur at any point from the intrauterine portion of the tube to the extreme limits of the fimbria. It assumes a greater gravity as the attachment approaches the uterus. This led Dr. Joseph Price to give us the epigram: "Those implanted in the outer half of the tube belong to the surgeon; those in the inner half to the undertaker." It was once thought that all extrauterine pregnancies were primarily tubal, but abundant evidence proves the contrary. Webster, who denied the possibility of an ovarian pregnancy, urged that implantation could only take place on Mullerian structures. Later, when convinced of the possibility of an ovarian pregnancy, he explained it upon the grounds of inclusion of Mullerian structure in the ovary. A decidual reaction has been counted necessary for implantation by Webster and others, but upon this not all are agreed. That implantation does not take place more frequently in the tube Webster explains upon the theory that the upper part of the Mullerian duct (the tube), as it has been differentiated into an egg transmitting portion, has lost its capacity for normal decidual reaction, and therefore its capacity for receiving the ovum, and that a decided reaction in the tube is a result of reversion to an earlier type in which the whole Mullerian tract was used for the implantation of multiple ova. Sipple is of the opinion that a certain time is required for a decidual reaction to take place, and that during this time the fertilized ovum has usually reached the uterus, but that in case of external migration the fertilized ovum may reach the tube when sufficient reaction has taken place to allow of implantation. Again, Hitschmann and Lindenthal are of the opinion that the ovum implants itself only at a certain stage of its development, at which time it has usually reached the uterus, but that an un-

usual delay finds it in the tube at the time ripe for implantation. The experimental work of Tainturier and others upon rabbits, in which the tubes and horns of the uterus are tied, indicates that in rabbits at least some other factor than mechanical obstruction is necessary for the development of the ovum in the Fallopian tube, and this they were inclined to ascribe to the lack of decidual reaction. These views are based upon the idea that decidual reaction is a preparation for and necessary to implantation. This would imply that the maternal tissues are a willing host, anticipating the needs of its parasite, and this would imply a mutual benefit.

More recent investigations make possible the following statements: (1) Implantation of the ovum has taken place where Mullerian tissue does not normally exist. (2) Decidual reaction in the tubes, and to a less extent in the uterus, is a variable quantity—a well-developed decidual reaction having been observed in some cases and no decidual reaction having been discovered in other cases of extrauterine pregnancy. (3) Cells morphologically similar or identical to decidual cells have been observed in the uterus, in the tube, in the ovary, upon the peritonium at some distance from the tube, without pregnancy having existed. (4) The method of implantation of the ovum in the uterus and in the tube, and the process of development, indicate that the ovum is a parasite, working at the expense and to the destruction of the maternal structures. (5) The decidual reaction is by many observers considered a connective tissue reaction of maternal structures not to receive the ovum, but to withstand the destructive and corroding influence of the trophoblastic cells of the latter. (6) These observers consider that the greater damage done in the tube, over that done in the uterus, is due to its lack of ability to develop a protective tissue reaction.

Heinsius says that the decidua is a tissue consisting of a dense layer of enlarged connective tissue cells with large nuclei, a tissue the functions of which are to afford protection both to mother and ovum. Kromer has observed that the muscular fibers and the interstitial connective tissue cells

swell in a decidual manner, and show large clear vescular characters, when in contact with masses of syncytium. Langhans found a completely developed decidua only at the placental site. Williams coincides with Peters in the belief that the ovum penetrates the surface epithelium and burrows into the adjacent tissue. Heinsius again says that in what will be the placental site the muscle is destroyed, and looks as if it had been eaten out. Futh remarks that the ovum undoubted enters the tissues by its own activity. Vassmer and Raschkes are authority for the statement that the fetal cells destroy or cause atrophy of the muscle—the presence of muscle in the capsule showing the deep implantation in the tube wall. Andrews says, "All observers, except Veit, Kromer and Fellner, are agreed that the maternal tissues are destroyed by the tropoblast. As proof of this destructive action in the case reported, the trophoblast had grown through the capsularis and attacked the tube wall on the other side of the lumen." Again he remarks, "The bulk of evidence is in favor of the view that the fetal cells act in a malignant or pseudo-malignant manner toward the maternal tissues." Hitschmann has observed the trophoblast actively invading the blood-vessel walls. Veit refuses to admit this, and thinks these findings only in veins and due to deportation; but Andrews quotes numerous authors who are of the opinion that the deportation is secondary to destruction of the vessel walls by the trophoblast. Williams, after quoting numerous observers, says, "It is apparent that while a decidual reaction may occur in the tubes, in tubal pregnancy it is not universal, and never develops to the same extent as in the uterus. This fact is of interest not only from a scientific point of view, but also has a distinctly practical bearing, as it would seem to offer a satisfactory explanation for the invasion and destruction of the tube wall by the fetal elements. In uterine pregnancy such an invasion is noted only in rare instances, in which there is imperfect work of the decidua, and it would therefore appear that one of the main purposes of the latter is to protect the un-

derlying maternal tissues against the invading and corrosive action of the fetal elements." Werth, as long ago as 1887, looked upon extrauterine pregnancy as a malignant growth, but says that the ovum in "making its bed digs its own grave." Haultain says, "A tubal pregnancy must be considered in the light of a malignant growth and a continued menace to life as long as it is present." Were it necessary quotations could be multiplied in support of the view that the ovum is a parasite in the tube, doing harm not alone by the failure of the tubes to keep pace with its growth, but by the destruction of maternal tissues as well. Almost every observer must have noted cases in which the perforation has a punched-out appearance, as though the ovum has literally eaten its way through the tube walls.

Tubal Pathology.—Beginning with such pathology as exists at the time of fertilization, such as changes in the epithelium, thickening of the tube wall, partial closure of its mouth, tumors in its walls or projecting into its lumen, congenital or acquired narrowing, tortuosity, blind pockets, kinkings, etc., or almost no pathology at all, we have a series of characteristic changes due to the ovum imbedding itself at the expense of the maternal tissues, and then corroding its way out of this bed at the further expense of its surrounding sac, many times opening up such blood vessels that hemorrhage results in the death of the host.

Werth and others are of the opinion that the ovum may become implanted upon a fold of the tube, or between two folds, and designates the implantation columnar, or intercolumnar, accordingly. In either case the ovum penetrates the lining of the tube and burrows beneath the mucous membrane, as is shown by the experimental work of Graf Spee upon implantation in the guinea pig, and the observations of Peters in an early pregnancy. A well-marked pseudo-reflexa has been observed separating the tubal pregnancy from the lumen of the tube. The trophoblastic cells invade the surrovnding maternal tissues, according to Williams and many others. In the uterus this invasion is met by a well marked

decidual reaction and hypertrophy and hyperplasia of muscle cells, but, the tubal tissues having little capacity for such reaction, are overcome and suffer degenerative changes.

Peters, von Franque and Garkisch, Heinsius, Hitchmann, Andrews, Williams and many others believe in this destructive action of trophoblastic cells of the ovum and the inability of the tube to withstand it. Williams writes, "The trophoblastic cells not only possess markedly invasive properties in virtue of their rapid proliferation, but also exert an erosive action upon the surrounding maternal tissue. As a consequence many of the muscle cells are destroyed and undergo fibrinous degeneration, while the blood-vessels in the vicinity are opened up to the invading trophoblast, and by the escape of their contents give rise to a large number of spaces of varying size, filled with blood, which lie within the taopoblast or between it and the surrounding maternal tissue." The action of the trophoblast may invade the maternal blood-vessels to such an extent that the resulting hemorrhage may partially or entirely separate the ovum from its attachment, resulting in death of the ovum even at an early date. Numerous cases are observed in which a section of the tubal contents shows the mass to be made up of concentric rings of partially organized blood-clot, with possibly the dead and compressed ovum in the center—a tubal mole. In the progress of a living ovum, or the enlargement of the tubal mole by repeated hemorrhage, the tubal wall becomes thinned, degenerated and eroded, when it gives way and the ovum is carried outside the tube, or from its sac into the tube lumen. The hemorrhage into the sac, thereby increasing the pressure, as well as the above-described degeneration of the sac, is considered to have an important bearing upon final rupture. An ovum implanted near the abdominal end of the tube is much more likely to rupture through the pseudoreflexa into the tube lumen, where it may continue for a while, when it may be aborted into the abdominal cavity. The tube wall may give way upon its peritoneal surface or at its broad ligament site. With the onset of pregnancy the

entire blood supply of the pelvic organs is increased. In tubal pregnancy the vascularity of the tissues is marked, so that erosion and rupture result in extensive and oftentimes dangerous hemorrhage, depending upon the degree of vascularity, the coagulability of the blood, and the surrounding adhesions. It frequently happens that an inflammatory reaction has preceded the rupture, so that a wall of adhesions confines the blood and limits the amount of hemorrhage. Occasionally the tube has shown such capacity for hyperplasia and hypertrophy of its musculature and connective tissues that it has continued unruptured to full-term pregnancy; but this is the rare and unexpected exception. The future of the tube hac been of much interest. Added to the previous pathology of the tube we have the more or less ragged cul-de-sac or perforation, oftentimes hypertrophy and hyperplasia, some degeneration, edema and inflammatory thickening, adhesions at times and the remains of portions of the ovum, to make a future pathological tube. Occasionally, however, repair takes place to the extent that a fairly healthy tube is left.

The Fate of the Ovum.—It is not unlikely, as indicated by the experimental work of Schmidt, Tainturier and Mandl upon rabbits, that many fertilized ova, failing to find their way into the uterus, also fail to become imbedded and die. In a few cases the ovum becomes implanted, but its destructive action causes hemorrhage, which detaches it, and it remains in the tube for a time, causing only a moderate disturbance, and finally becomes absorbed. A large number die sooner or later from hemorrhage around them, but rupture through their capsule into the lumen of the tube, or through the wall of the tube into the broad ligament, or into the peritoneal cavity. The live ovum or the tubal mole, if situated near the abdominal end of the tube, may be aborted from the end of the tube with the primary rupture or later, after finding temporary lodgment in the tube lumen. If the pregnancy is situated in the uterine end of the tube, abortion of the dead or live ovum may occur into the uterine cavity.

The live ovum may retain enough of its original attachments to continue circulation, and new attachments may be formed in the uterus, or, failing in its attachments, the ovum will die. A live ovum rupturing into the broad ligament, or into the peritoneal cavity, or one aborting into the peritoneal cavity may at once die from lack of circulation, or may continue to live until a subsequent rupture or series of ruptures severs it from its blood supply sufficiently to cause death. In a few cases the oqum continues to term after rupture, and cases have been known to continue to term without rupture. The products of an early pregnancy may, if the patient lives, become absorbed or encysted, or suppuration may take place. Later the death of the ovum may be followed by suppuration, mummification or calcification, or be transformed into a fatty degenerated mass. The remains of full-term retained fetus has been removed in many instances recorded by Leinzell, Keozer, Albers, Kuchenmeister, Fales and others. It has proven the source of dystocia in a future pregnancy, leading to cesarean section, induction of premature labor, or craniotomy in the hands of Hugenberger, Schauta, Sanger, Hennigsen, Debot, Stein and others. A retained fetus may find its way into the bladder, bowel, rectum, vagina, or through the abdominal wall months or years after the death of the fetus. In a considerable number of cases the living fetus has been removed by surgical measures.

Williams has shown in a series of thirty-five collected cases of what he terms positive, highly probable or probable ovarian pregnancies, eleven cases went to full term. As pointed out by this author, this would indicate a greater degree of tolerance on the part of the ovary than is shown in the tube. However, in ovarian pregnancy rupture must be the expected outcome, as shown by the same series of cases. The ovum is subject to the same diseases that are found in uterine pregnancy, hydatiform mole (Recklinghausen, Otto), Hydramnios (Teuffel, Webster) and deciduoma malignum (Ahlfeld, Marchand). The patient, too, has been known to

suffer from the toxemia of pregnancy, resulting in eclampsia. The prognosis of the fetus is so unfavorable that, taken with the extreme risk to the mother, our treatment should not brook delay in the interest of a nonviable child. The probable fate of the mother could well be discussed, but this is so influenced by treatment at the present time that it will be discussed under that subhead.

The Recognition.—The diagnosis of extrauterine pregnancy is made most readily by having in mind a typical picture, with exceptions, and a clear-cut clinical picture of those things which simulate it. A wide clinical experience in this and diseases simulating it is the best possible preparation; but it is not for this person we are writing upon the subject. I would lay great stress upon a carefully taken history. A history taken by a careful observer; an observer alive to the possibilities of extrauterine pregnancy and conditians which stimulate it. A carelessly taken history, by one not having the possibilities in mind, may not give even a suggestion of the trouble to the careful reader of the history. Many patients have to be questioned closely, and cross questioned, in order that truth be revealed. One magnifies and another minimizes the pain.

Usually the presence of pregnancy is suspected, the clinical course of which is modified by the pathology which develops by reason of the implantation taking place in the tube, the resulting rupture furnishing a strong diagnostic feature, as well as introducing a great element of danger. The typical picture is presented by (1) a woman of child-bearing age, the age of greatest frequency corresponding to the age of greatest frequency of pregnancy; (2) marital relations—this history is sometimes withheld; (3) a history of previous sterility—many exceptions; (4) a history of previous pelvic disease—few exceptions; (5) a history of probable pregnancy—some exceptions; (6) the course of the pregnancy modified or apparently interrupted, frequently more pain, pelvic distress nausea, etc., before rupture takes place; (7) sudden outset of severe pain, with hemorrhage and collapse, varia-

ble in degree; (8) the above frequently a mistaken history of abortion—a large number of my cases had been previously curetted; (9) symptoms keeping up or returning after a supposed abortion or curettage; (10) a boggy pelvic mass—occasional exceptions; (11) a distinct tubal enlargement without a surrounding boggy mass, if seen before rupture, in a few cases when seen after a history of rupture; and (12) a normal, subnormal or only slightly elevated temperature. With this history an extrauterine pregnancy is to be taken into consideration. The patient is now closely questioned as to the last regular flow, and the fact of regularity or irregularity for several months back established, and any abnormalities carefully noted. The date of onset of pain and hemorrhage also noted. A flow followed by pain is not typical. A sudden severe pain, followed by moderate external hemorrhage, is typical, but may be met in abortion or pelvic inflammation. The patient frequently evidences greater shock and anemia than is suggested by the external hemorrhage. A sudden onset of pain not followed by hemorrhage to a slight or moderate extent is not indicative of extrauterine pregnancy. With a history of recent pelvic pain simulating that accompanying rupture of extrauterine pregnancy, and with a mass found in the pelvis, but in which no red blood or prune juice or tarry discharge had been discovered, I would make a probable diagnosis of some other condition than tubal pregnancy; but this might, if the evidence of extrauterine pregnancy was strong, be ovarian pregnancy, in which the hemorrhage is not so marked. Patients' interpretation and memory of pain is so variable that it is well worth while asking (1) "What were you doing wnen you noticed the first pain?" and then in order to reveal the severity and length of the pain, (2) "What did you do after you noticed the pain—did you continue with your work—did you keep about or did you have to go to bed, and did you send for a doctor, etc.?" The patient is then carefully accompanied over the whole course of her trouble, day by day, and every occurrence noted. We have found in the study of the pathology

that the destructive action of the trophoblast upon the tubal wall and upon the blood vessels, the resulting hemorrhage causing increased pressure, and distension of the tube from growth of the ovum, all played a part in the rupture. The answers I have received to question 1 indicate that efforts on the part of the patient play no small part in the final rupture. One patient was straining at stool, two were hanging up clothes, one was reaching up from a step-ladder, one was sweeping, and one stooped to go under a barbed-wire fence, fell, overcome with pain, and had to be carried to the house (Dr. Peterson's case). On the other hand, some were lying quietly in bed or sitting without exertion. In most cases the onset of pain was so marked as to cause the patient to leave her work, but to this there were exceptions. One continued hanging up clothes until through; one lay down for a few minutes and then resumed work about the house for the day. Many writers have tried to lay stress upon some one thing that would that would clinch the diagnosis of extrauterine pregnancy, and to this end have laid much stress upon the finding of decidua. Rossi Doria, Schmauch, Hitschmann and Adler and others point out that there is no distinctive decidual cell. A decidual reaction is found in the uterus in uterine pregnancy, may be slight or marked in extrauterine pregnancy, and has been described by Griffiths and Dakin and others with no pregnancy. so that the finding of a decidual tissue is little more than suggestive, and the absence of decidual findings of very little negative importance. In case of a probable pregnancy, with uterine hemorrhage, pelvic pain and a pelvic mass, in which the question lies between abortion and extrauterine pregnancy, a decidua with chorionic villi would indicate a uterine pregnancy, while a decidua without chorionic villi would suggest an extrauterine, although the first might be due to a tubal abortion into the uterus. In undertaking to differentiate between abortion and extrauterine pregnancy the sudden, severe, lancinating or tearing pain, accompanied by collapse and hemorrhage, or followed by hemorrhage with an anemia in excess of exter-

nal flow, the pain not being of a spasmodic nature, speaks for extrauterine, especially with uterine shreds, with no evidence of an ovum. Here one should bear in mind, too, the possibility of a combined intra- and extrauterine pregnancy. Practically every case of supposed abortion should have a careful pelvic examination to discover the presence or absence of complicating conditions. The observer should not be thrown off his guard in cases giving a history of attempted abortion. The coroner's records instance a case in which an abortion was attempted, which resulted in infection from which the patient died. The coroner's physician found an extrauterine, but no intrauterine, pregnancy. The operator is now serving a term in prison. A woman entering my service at Cook County Hospital, who died shortly after her arrival, gave the history of pregnancy and attempted abortion with emmemagogues, and supposed that she was aborting. The interne found her in severe collapse, with anemia out of proportion to evidences or history of external bleeding, and diagnosed extrauterine pregnancy, but too late for operation. The coroner's physician found rupture of the right tube, with the abdomen full of free blood. An interesting medico-legal case is recorded, in which a pregnant woman on a journey to a remote part of the country was injured by a railroad accident while yet in civilization. Her injury resulted in supposed abortion, but complication led to the necessity of a colotomy, at which time an extrauterine pregnancy was discvered. The interested parties sought to recover damages from the railroad, but the jury rendered a verdict for the defendant on the ground that had the woman gone to an isolated territory, where only unskilled aid was at hand, the extrauterine pregnancy would no doubt have resulted in her death.

The most severe cases, in which the physician is called during the attack, are frequentlp not difficult to diagnose. A woman of child-bearing age, with or without a history of sterility, with or without a history of previous pelvic disease, with or without a history of presumable pregnancy, who is

taken with sudden severe pain and collapse, with evidences of intra-abdominal hemorrhage, has in all probability an extrauterine pregnancy, with complete or partial rupture, or tubal abortion, and in a large proportion of these severe cases will lose her life unless prompt operative treatment is instituted. A number of these cases will be met in which no pelvic mass is discoverable to verify the diagnosis. A condition which very closely simulates the feel of a ruptured extrauterine mass is a retrodisplaced pregnant uterus, but the mass is more distinctly continuous with the cervix, more central and symmetrical, is not accompanied with uterine hemorrhage unless abortion is threatening, gives a history of gradually developing pelvic distress, more and more difficulty in obtaining bowel movements, and gives, usually, if seen when incarceration is beginning, or continuing, a very definite history of bladder symtoms. There is usually absence of history of sudden severe pain and collapse. In extrauterine pregnancy we seldom get marrked bladder symptoms or retention of urine, as an incarceration. The two pictures are sufficiently unlike to be readily distinguished by the initiated.

Torsion of the pedicle of an ovarian cyst, or a fibroid, or the omentum, may stimulate extrauterine pregnancy, but these would usually lack the sudden collapse and evidences of loss of blood characteristic of extrauterine pregnancy, and the hemorrhage from the uterus would be wanting in most cases.

Appendicitis and extrauterine pregnancy are not infrequently confused. In the latter the greatest tenderness is elicited usually by bimanual examination, while pressure over McBurney's point reveals the tenderness in appendicitis. In appendicitis, too, we lack the collapse which goes with an equally severe attack of extrauterine pregnancy; anemia is not so marked; a rise of temperature is a marked feature; a more marked leucocytosis is soon found in appendicitis, and there is absence of hemorrhage from the uterus, unless a mere coincidence, when the onset of the pain usually

bears no definite relation to the onset of the hemorrhage. Early uterine pregnancy, accompanied with ovarian growth, or tubal enlargements, should be kept in mind. In advanced cases we should remember the possibility of an abdominal pregnancy and intrauterine pregnancy, or large ovarian growth, a fibroid tumor or ascitis, etc. A number of cases are recorded of combined intra- and extrauterine pregnancy, both going to term.

Many times, after taking all diagnostic points into consideration, the observer is still in doubt as to the presence or absence of extrauterine pregnancy. In order to determine whether a given pelvic mass is a pregnancy or otherwise a vaginal puncture or aspiration is sometimes carried out. This is to be condemned in the face of evidence that it has resulted in death in a number of cases, and is permissible, if at all, only when the operator is prepared for an immediate laparotomy, and even then an abdominal incision discovers more and offers greater opportunity for checking any severe hemorrhage which may follow interference with the sac. The use of the X-ray may be useful to discover the fetal skeleton in some doubtful cases.

Early observers consider pelvic hematocele unrelated to extrauterine pregnancy of frequent occurrence, but the work of Veit, Tait and others demonstrated that it usually had its beginning in the form of pregnancy. Bovee and others now point out that the pendulum has swung too far in considering all pelvic blood collections a result of extrauterine pregnancy, whether in the tube, ovary, broad ligament or lower peritoneal cavity. The question arises as to what establishes the fact of extrauterine pregnancy when the abdomen is opened, or in examination of specimens removed. Certainly not the presence of blood, whether circumscribed or free; nor the presence of decidua; but rather the finding of undoubted microscopical evidences of the ovum, or the microscopical finding of chorionic villi, or some other portion of the ovum. The presence of free or circumscribed blood with a rupture of the tube or ovary is strong presumptive evi-

dence, without the ovum being discovered, but the presence of chorionic villi, observed microscopically, establishes the diagnosis.

Treatment.—In many of the abnormalities of pregnancy the life of the fetus, as well as that of the mother, has to be considered. So nearly certain is the ovum to commit suicide in extrauterine pregnancy, however, that only the mother's health and safety have to be considered in any but the exceptional case. As one of the reasons for inducing abortion an aspirant for one of our large hospital services gave in competitive examination this answer: "In cases of maternal syphilis abortion should be induced in the interest of the child." The prognosis is so bad for the ovum in extrauterine pregnancy that we could almost apply a similar form of treatment in the interest of the fetus. The mortality of the fetus is 100 per cent. without operative measures, most cases resulting in death of the fetus in the early months. In those few cases in which the ovum continues to term the interest of the child and mother are one; that is, separation. We have abundance of pathological and clinical evidence to show that with the imbedding process of an extrauterine pregnancy begins the work of a parasitic growth likened to a malignant growth, destructive to the maternal tissues, and at all times unfriendly to its host until it is not only dead, but removed. The tendency of the growth is suicidal, but in accomplishing its self-destructive work it is matricidal in its tendency.

We have, then, to consider the best interest of the mother, and to decide what may be expected if the condition is left to its own undoing; what may be expected of the measures which undertake to kill the ovum; what may be expected of surgical measures, and when may surgical measures be expected to accomplish most.

Extrauterine pregnancy is not in any sense a medical disease. No drug treatment, or rest, or manipulation, or Christian science, may be expected to postpone indefinitely the almost inevitable rupture, or prepare the patient so as

to make the rupture safe. Not all cases will die from rupture, but we have few or no facilities for determining which ones will prove fatal. If the hemorrhage following rupture takes place in the broad ligament, or is circumscribed by adhesions, the danger is lessened, but that cannot be prophesied before rupture, and very frequently cannot be discovered afterward without operation, and, even if properly diagnosed, a secondary rupture may take place later. An ice-bag or "absent treatment" is a very poor substitute for a ligature in intra-abdominal hemorrhage. Any delay after a diagnosis of extrauterine pregnancy is made makes possible further rupture, greater hemorrhage, the introduction of bacteria, and the formation of attachments which may prevent immediate hemorrhage, but lead to a more complicated operation later. Extrauterine pregnancy is distinctly a surgical condition. Efforts have been made to destroy the life of the ovum by puncture, removal of amniotic fluid, injection of irritants and poisons, the use of electricity, and later the X-ray. These are uncertain as to causing death of the ovum, and unreliable as to the harm which they may do. Then, too, we have abundance of evidence that the dead ovum is only slightly less harmful, if at all, than the living. The enlargement of the ovum from actual growth is only one of the causes of rupture. Degeneration of the sac and hemorrhage within the sac are quite as important factors to be considered. These uncertain forms of treatment can not in any sense displace surgery, and the results to be attained preliminary to an operation do not compensate for the risk assumed in the delay of operative work. We have before rupture an active destructive growth which should be removed; we have after rupture hemorrhage, with blood vessels to be tied; we have material foreign to the peritoneal cavity to be removed; we have in some cases sepsis, for which should be furnished an exit. This is but following the most simple, and yet the most important, principles of surgery. Most fatal cases die from hemorrhage. The patient is sometimes seen in collapse, but this is due to hemorrhage,

and not the shock of trauma. In crushing injuries amputation after reaction from shock is thought best, but this delay is advised when hemorrhage is controlled. In intra-abdominal bleeding the shock is due to blood loss, and we have no certainty that it is checked. Schauta collected 123 cases operated upon, with a mortality of 5.7 per cent., and 121 cases treated palliatively, with a mortality of 86.89 per cent. The statistics of A. Martin show a mortality of 63.1 per cent. out of 265 cases treated palliatively, and a mortality of only 23.7 per cent. of 515 cases treated operatively. The same author claims a mortality of 83.1 per cent. for patients with internal hemorrhage. Costun reports a maternity mortality of 85.5 per cent. Parry reports 174 cases of rupture, in which none recovered. Chogan reports 84.4 per cent. recovered in cases operated upon, and Newell, 81.4 per cent. in 69 cases. Tinsteur's statistics treat of 133 cases, as follows: 107 cases treated by laparotomy, with 2 deaths; 22 cases treated vaginally, with 3 deaths; 4 cases treated by the combined methods. Fifty of these cases were tubal abortions with 1 death and 23 ruptures with only 2 deaths, notwithstanding the fact that 5 of the cases of rupture were operated upon in collapse without anesthesia. Gobiet reports 18 case of extra- and intrauterine pregnancy combined, of which 8 mothers recovered and 10 died; of the 10 which died only 2 were operated upon. Jacobs reports a series of 802 cases with intra-peritoneal hemorrhage, 615 of which were operated upon during the first hours of accident, with the result of 580 recoveries and 27 deaths; 142 cases were operated upon from several hours to one or two days after rupture, with 130 recoveries and 12 deaths; 45 cases were not operated upon, of which 20 lived and 25 died. My clinical experience is in accord with these figures, and entirely in favor of early operative procedure. Out of a limited experience of 12 cases, 11 cases operated upon recovered, 1 case died after entering the hospital before operation could be performed; an early diagnosis and prompt treatment would undoubtedly have saved this one. I have quoted authors at some length, because recently there

was spread through the literature views, based upon animal experiments, at variance with clinical evidences, which clinical evidences are entirely in accord with the pathology of the morbid process. The evidence is strongly in favor not only of operation, but early operation as well. Robb discredits the clinical evidence, ignores the pathology, overrules the sound surgical law that bleeding vesssls should be tied, because a series of dogs lived in spite of severed vessels. It is not my wish to minimize the value of animal experimentation, or discredit the observer in this line, but conclusions must not be too readily drawn, and when the experience of the world for generations is that women do die from hemorrhage following the rupture of an extrauterine pregnancy, one must not be too hasty in abandoning immediate operation upon the grounds that hemorrhage will cease before a sufficient amount of blood is lost to cause death. To quote Robb, "In none of these cases did the dog succumb to the hemorrhage, although we probably subjected our animals to as great a risk of bleeding to death as is incurred from a ruptured tubal pregnancy." The fact that a post-mortem reveals a smaller percentage of blood per body-weight than an animal is capable of losing, and therefore less than is sufficient to cause the death of the woman, has little weight against the fact that she is dead, and the further fact that great numbers die. The very fact that all of the dogs lived disproves the statement that they were subjected to as great risk of death from hemorrhage as is incurred by the average woman with ruptured extrauterine pregnancy. It is admitted that dogs can lose a greater percentage of blood. The greater number of deaths following the slipping of a ligature in early work upon the pelvic organs proves, when compared with these experiments, the greater tendency of the ovarian and uterine arteries to bleed in women. The vascularity of the tissues and the size of the blood vessels are markedly increased during pregnancy, and these experiments were nearly all on non-pregnant dogs. But had greater pains been taken to have similar conditions

obtain, and had pregnant dogs all stood the test, we would still have the undisputable fact to face that patients do die and are dying from ruptured extrauterine pregnancy, and the way to save them is by early recognition and the early application of a ligature. Robb's experiments led him to lay great stress upon the hemoglobin reading as a means of determining the time of formation of clot with the cessation of hemorrhage, and concludes as follows: "I believe that the hemoglobin readings will be found very useful in cases of intra-abdominal hemorrhage from a ruptured ectopic pregnancy, and that when we see that the hemoglobin remains stationary we can feel confident that we are doing the best for the patient in not operating at once." Crile's animal experiments showed a lack of such uniform results as could be turned to a practical purpose by estimating the amount of blood that could be lost. The mortality of extrauterine pregnancy is furnished largely by hemorrhage, and that percentage is large. Every fatal case passes through the condition in which Robb and others recommend non-operative treatment on the grounds that hemorrhage will cease before death occurs. Those authors look forward to an operation, but in just those cases in which a ligature is most needed operation is postponed because the patient is not strong enough to stand an operation. The patient is in shock because of loss of blood, and the essentially important step is to check the flow of blood before the fatal amount is lost. Practically every fatal case of extrauterine pregnancy has a period between rupture or partial rupture and death in which a life-saving operation can be performed. Every case faces the chances of a fatal hemorrhage. The pathology is such that no case with extrauterine pregnancy can be said to be safe. Some conditions are less dangerous than others, but it baffles diagnostic skill to say which ones are to be the fatal ones. No one can say when an unruptured case is going to rupture, or where it will rupture, or how fatal that rupture will be. No one can say in all cases, after rupture, whether that rupture is partial or complete, where the rupt-

ure has taken place, how liable it is to prove fatal, or when another rupture will follow, resulting in a further loss of blood, although the primary hemorrhage has been checked. Whether or not the primary hemorrage has been checked is difficult to say. Rupture into the broad ligament is considered less dangerous because circumscribed, but the wall may at any time give way. This limiting wall and contained clot may be all that is preventing a fatal hemorrhage. Only in old cases and resulting pelvic abscesses should such a condition be attacked through the vagina, where we are practically helpless in the presence of hemorrhage.

The treatment of extrauterine pregnancy does not have to consider the ovum in the least until advanced pregnancy, and then the interest of the mother is the interest of the child. The fate of the mother is so precarious from the time of implantation of the ovum until its removal that immediate or early removal is the only rational treatment for extrauterine pregnancy, when a probable diagnosis has been made. The more marked the collapse the more urgent is immediate operation. Some will say this encourages emergency operating by unskilled operators, with improper surroundings, to which I would answer that this is not a paper upon what to do with unskilled operators. Incidentally, we fear that were Oliver Wendell Holmes alive at the present time he would revise his statement, to include these operators, "that if all drugs—pith a few exceptions—were cast into the sea, it would be better for man, but worse for the fishes." We sometimes find it difficult enough to decide what to do when we have an operator and proper surroundings, and it is the business of all to make skill and surroundings fit the needs of patients as nearly as possible.

In combined intra- and extrauterine pregnancy the extrauterine ovum should be removed in the interest of the mother and the intrauterine embryo. Cases have been observed in which both came to term and were delivered alive, but the fetal and maternal mortality is necessarily high. Hanna Christer Nilsson, after a study of sixty-eight cases of

combined pregnancy, observes that interruption of the intrauterine pregnancy has little effect upon the extrauterine ovum, but that early removal of the extrauterine favorably influences the possibility of the uterine ovum going to term. Gobiet recommends that in case each has gone to term laparotomy should be performed after the delivery of the intrauterine child.

Martin, Duhrssen and others have recommended attacking the ruptured or unruptured extrauterine pregnancy through the vagina, but when we consider that the danger of lighting up new hemorrhage during an operation is great, with which we are unable to cope through the vaginal route, we find that anatomy, pathology, clinical evidence and the surgical preference of a large number of men are against this method of attack. My experience with the vaginal route has been slight, but had I early known, as I do now, how utterly helpless we were in the face of hemorrhage, my experience with the vaginal route would be less. It is highly undesirable in the newly ruptured cases, and in old cases the toilet of the pelvis can be made more perfect by the abdominal route, except in the cases of sepsis or accumulated pus.

A. Martin, Prochownik, Ries and others have advocated saving the affected tube, but this seems of doubtful utility. An occasional extrauterine pregnancy recurs on the opposite side, but not with sufficient frequency to warrant removal of an apparently healthy tube. Frequently a hydrosalpinx or a pus tube is found, and should usually be removed. In two of my cases retrodisplacements were corrected at the time.

In conclusion I would say:

1. In a study of implantation and the growth of the ovum there are grounds for the conception that the ovum is a parasite living at the expense of its host.

2. Previous pelvic disease, frequently of gonorrheal origin, seems to play an important part as an etiological factor.

3. A study of the pathology indicates that in the case of extrauterine pregnancy the parasitic growth develops ma-

lignant tendencias, due to the incapacity of the maternal tissues to cope with it.

4. The extrauterine ovum is suicidal and matricidal in its tendencies.

5. The risk to the mother is largely, though not entirely, that of hemorrhage.

6. Less frequent causes of death or mosbidity are sepsis, obstruction of bowels, embolism fistulæ, etc.

7. The prognosis of the ovum is so uniformly bad that it should receive no consideration, except in case of a viable embryo, when early removal should be urged in the interest of both mother and child.

8. The menace of extrauterine pregnancy to the life and health of the host is so great that an early diagnosis and prompt removal of the ovum is of prime importance.

9. An extrauterine pregnancy should be thought of when a woman of child bearing age gives the history of sudden, severe pain in the region of the ovary, with a "show" or hemorrhage from the uterus, accompanied by collapse, and evidences of concealed hemorrhage, a pelvic mass helps to confirm the diagnosis.

10. The more urgent the symptoms the greater the need of operation, as the collapse is due to hemorrhage, and vessels may still be bleeding or hemorrhage may be resumed.

11. The clinical evidence is that patients do die of hemorrhage, experiments upon dogs to the contrary notwithstanding.

12. Pathology indicates, and clinical evidence teaches, that prompt surgical measures will decidedly lower the mortality.

13. Suprapubic instead of vaginal incision should be chosen in all unruptured cases, and in most old cases unless contra indicated by sepsis or accumulation.

14. No vaginal puncture or exploration should be undertaken for diagnostic or therapeutic purposes unless preparations have been made for immediate laparotomy.

THE IDEAL DOCTOR.

By G. Frank Lydston, M. D.

The man who was to me an ideal physician, had grown gray in the service of humanity, and had seen less deserving men among his class mates push forward to wide reputations and great financial rewards, whilst he remained in the same plodding path he entered on leaving the hospital.

He was not popular in the early days of his practice in the North, for he was a Virginian, and the people of his colder Northern environment were rather slow to forget that he was once a "rebel surgeon." He had seen his guiding star of duty in the care of the "Boys in Gray"—how well he had performed that duty, the stricken soldiers of the confederate army of the Tennesse could testify. When popularity did come, it was not such as brings affluence, or even financial independence. He who had been reared in wealth and luxury was doomed to be a "poor man's doctor"—for with him, fees were a secondary consideration. As with many others of Utopian ideas, our kind doctor's generosity was more often abused than appreciated. The axiom that "the gift horse is ridden to death," is no where more aptly illustrated than in the practice of medicine, and ever stands as a solemn protest against the doctor's mixing too much sentiment with his daily work.

Being a poor man's doctor, is equivalent to being a poor man, and so our family doctor had little occasion for display. Satisfied was he, with a sound coat to cover his back—albeit 'twas often thread bare—bread for his babies and a clean slate at his butcher's. And yet he was talented—indeed, he was the most philosophic physician I ever knew. But the rich did not appreciate his merit, and he was too busy with patients of less distinction to thrust himself before people of greater social and financial importance.

How often, in my student days, I have known the old man to rise of a cold, tempestuous midwinter'a night, to face the icy storm in behalf of some poor, sick woman or suffering child, whom he well knew would never be able to compensate

him. Sometimes I would say to him, "Doctor, the head of that family could pay you if he would; he drinks, and gambles his money away. I wouldn't go, if I were you." And then the kind old soul would shake his head reprovingly, and say, "Frank, my boy, never let the women and children suffer, even though the men are rascals. Be all the more ready to go, because you have an opportunity to redeem your sex—it needs it badly enough."

Forty years of unremitting toil brought feebleness to the old doctor, yet he still followed the narrow path of professional duty he had marked out for himself in early life. Someone had said in his later years, "It is not wise to trust the old doctor too far; the silvery crown of age does not always bring wisdom, nor does the feebleness of senility insure a keen eye, an unerring judgement or a steady hand. Do thou employ a younger and more learned physician."

But his faithful patients replied, "He has served us passing well; he has never abused our confidence, nor has he ever failed in the various trusts and responsibilities we have put upon him. He has succored our lives. and cared for our treasures—our children. He has guarded our reputations. These things do we value more than a knowledge of new theories, that are here today and there tomorrow; more than "the optic sharp, I ween, that sees things that are not to be seen." Bravely, faithfully, uncomplainingly, has he borne the woes of our children, and the burdens of our wives; most steadfastly has he shielded the family skeleton from the gaze of a carping and cruel world—this is more to us than all the fads of modern imaginations."

He died in harness, did this dear old man, and almost to the day of his death, he plodded about through the stormy days of our early spring weather. ministering to the wants of patients, none of whom were half so sick as was he himself. He finally succumed—the pitcher had gone to the well for the last time. And when the end came, his brother physicians looked wise, and gave learned names to the rest that had came after forty years of constant and self-sacrificing

labor for humanity's sake. Surely his toil had been unselfish, for he received little reward in this world—and his materialistic philosophy held out no hope of recompense in the next. But who shall say that oblivion was not to him a fair reward—a well earned rest.

Few indeed were the silks and satins in the little gathering that paid the last mournful tribute of respect to our dear old family doctor. Men in threadbare suits, and women in rusty black, looked down upon the face of the good and wise physician and felt that their best friend had gone—not to their heaven, perhaps, but, if he himself was right, to an immortality of another kind, free from fear of punishment or hope of reward.

Beside him wept the care-worn mother, who once had heard the chime of the golden bells across the mystic sea—who had seen old Charon with his phantom bark, ready to waft her to the eternal shore—that was all too near—and had been saved to her loved ones by the helping hand of our family doctor. And who shall say he was, or was not kind? And the little children, whose youthful trials in the battle of life he had helped to bear, seemed to reach out their tiny, eager hands, to call the old man back. To them he was a hero, of most colossal mould, whose fame and great deeds will ever be a sanctified and beautiful memory in the house hold.

Good and wise old family doctor, friend of the poor, champion of the struggling young practitioner, kindest and wisest of preceptors—here's to thy memory! Thy life was indeed an ideal that the many may not hope to attain, but which is even now being exemplified by a devoted few, whose lives—whether ruled by the sublime faith of Christianity or by that universal milk of human kindness that knows no creed—are inspired, not only by the genius of medicine, but by a practical philanthropy which makes the profession of medicine the noblest under the sun.

BILL FOR NATIONAL DEPARTMENT OF HEALTH.

By Robert L. Owen.

[Continued from March Issue.]

(g) The bureau of publication and publicity, which shall (a) publish the reports of the secretary of health and all reports, bulletins, and documents of all bureaus of the department of health when approved for the purpose by the secretary of health, and (b) devise and carry out the most effective means by which information originating in the department of health or any of its bureaus may be most widely and effectively disseminated for the information and guidance of the people.

Section 3 might with equal propriety provide that (a) there shall be a medical service of the Department of Health (b)designated by the initials U. S. H. S., meaning "United States Health Service." (c) which service shall consist of (1) a Regular Medical Corps, which shall consist of the United States Marine-Hospital Corps with its present personnel and without other modification in the law governing the same, or in the regulations enacted in persuance of such law than may be necessary to comply with the provisions of this act (2) A special Medical Corpse, which shall consist of all physicians, surgeons, and medical officers now employed in any capacity, in any department of the Government, except ing in the army and navy who, subject to the direction of the secretary of health, but without having their status otherwise disturbed, shall continue in their present capacity until the expiration of their present tenure, but thereafter all such positions shall be filled by detail from the regular Medical Corps which shall be selected in the first instance in accordance with regulations not less exacting than those which now govern entrance into the Marine-Hospital Corps. (d) The secretary of health shall, consistently with the provisions of this act, (1) define the grades of health service with due regard to the period of service and efficiency record of its members; (2) prescribe uniforms and insigna for each grade; (3) formulate rules and regulations for the government of the corps, and at his discretion (4) detail any member of the corps for duty in any bureau of the Department of Health, or (5) for duty in any other department on request of the secretary of such department, or (6) for duty in any State, Territory, or dependency, or in the Panama Canal Zone when requested so to do by the proper authority of

such State, Territory, dependency or the Panama Canal Zone whenever the resources of the service will permit such detail.

Section 4 might further define the duty of the secretary of health by stating that in addition to the duties elsewhere prescribed in the act (a) he may, in his discretion, transfer specific duties from one bureau to the other whenever required in the interests of both economy and efficiency; (b) exercise all the functions heretofore exercised, respectively, by the Secretary of the Treasury, the Secretary of the Interior, the Secretary of Agriculture and the Secretary of Commerce and Labor in connection with any bureau, division or service transferred by the act of the department of Health, (c) exercise all duties heretofore exercised by the Secretary of Agriculture in the enforcement of the pure food and drug act; (d) discharge snch other duties as may be prescribed from time to time by the President and, finally, (e) prepare and submit reports relative to his department embraceing suggestions for the improvement of its service, including recommendations for change in personnel, duties, and salaries.

Section 5 might provide (a) that the President be authorized and directed within one year of the passage of the act to appoint an advisory board of health to consist of six members, two to be appointed for one year, two for two years and two for three years each, who shall serve without pay, except their traveling expenses, for not more than six meetings annually, and whose functions shall be to confer with and advise the secretary of health and upon other questions at the request of the secretary of health; (b) the present consultative arrangement between the present Bureau of Health and representatives of the state boards of health might with propriety be continued between the Department of Health, its Secretary, advisory health boards, chiefs of bureaus and the representatives of the state boards of health.

Section 6 and succeeding sections might provide in the usual way for the transfer of officers, clerks, employes, property, fixtures, etc.

In asking that you take the foregoing points under special consideration; that the hearing be arranged for the earliest practicable date, and that legislation be reached, if possible at the present session of Congress, may I ask that you urge upon your colleagues the importance to the people of giving due weight to the conditions to which I have referred?

I have said that over 600,000 of our people die every

year from preventable causes. Suppose that our entire army and navy were swept off the earth not once, but three times in a year. Would the Congress do anything about it? Suppese that every man, woman and child in all New York, with Boston and Washington added, were similarly stricken. Would the Congress inaugurate an inquiry? Our losses from these causes amount to a billion and a half dollars loss every year. Suppose that every dollar appropriated annually for the expense of the Government and half as much more were actually burned up and the ashes blown into the sea. Would the Congress take action in the premises?

Our health agencies are scattered, uncorrelated and unorganized. Suppose that our monetary system were looked after by a dozen or more bureaus in almost as many departments, and that it were responsible for a billion and a half dollars loss every year. Would the Congress be disposed to think that there was possible relationship between the lack of organization and the deficit?

In reiterating the request for an early and full hearing on this question I beg to emphasize the fact that I do so in behalf of the American Medical Association, and in behalf of the interests of the people of the United States, as represented by or through the medical profession. And in this behalf, and in view of the fact, deducible from our vital statistics, that in this country alone the people are dying from preventable causes at the rate of more than one every minute, and that they are falling ill from the same causes at the rate of more than five every minute, may I not venture to suggest that the subject is one of sufficient importance to be entitled to precedence over some other questions that may be engaging the attention of the committee.

Awaiting your early reply, I have the honor to be,

Very sincerely,

CHARLES A. L. REED,

Chairman of the Legislative Committee, American Medical Association.

P. S.—I beg leave to advise you that I am sending a letter to the same purport, and largely in the same language as this, to Hon. James R. Mann. of the House, who has requested suggestions to be considered in committee in connection with the recommendations relative to the public-health clause contained in the President's message.

Mr. President, this bill (S. 6049) co-ordinates and brings into one working body the various health agencies of the Government.

It proposes no new officers except the secretary and his assistant, who should be a permanent officer, acting as a director-general. Perhaps such assistant should have this title.

It calls for no new appropriations except the salary of the secretaries.

It will provide a number of economies by preventing duplication, and make more efficient the money expended and the officials employed by the present health agencies of the government.

The coordination of these agencies has been approved by President Taft, and the vigorous cooperation of such agencies with the state authorities in stamping out disease has been urged by President Roosevelt.

I quote President Taft and what he said in regard to the work of the Committee of One Hundred in their desire to promote the national health:

How nearly this movement will come in accomplishing the complete purpose of its promoters, only the national legislator can tell. Certainly the economy of the union of all health agencies in the National Government in one bureau or department is wise.

President Roosevelt said:

I also hope that there will be legislation increasing the power of the National Government to deal with certain matters concerning the health of our people everywhere. The federal authorities, for instance, should join with all the state authorities in warring against the dreadful scourge of tuberculosis. I hope to see the National Government stand abreast of the foremost state governments.

I introduced this bill providing for a department, and not for a bureau. The reason for a department instead of a bureau is perfectly obvious and perfectly unanswerable.

I reiterate and endorse the five substantial reasons given by Charles A. L. Reed, chairman of the American Medical Association, and invite special attention to the cogency of the reasons given.

It is generally agreed that these bureaus should all be brought together as one working body. To bring estab-

lished bureaus under a new "bureau of public health" would be to lower the dignity of the present bureas by making them the subordinate bureaus of a new bureau, which would be offensive to every bureau so subordinated.

To bring these bureaus under a department would not lower the prestige of a bureau thus co ordinated with other bureaus under the department, and would, I believe, generally meet the approval of the government officers employed in the various bureaus so co-ordinated, giving them a new dignity by being a distinct branch of a department of public health, through which they could enlarge their efficiency and find better expression and publicity of work done for the public health.

We have had bureaus for one hundred years. They are scattered in eight departments. They have been disconnected and without co-ordination. They have ever been jealous of each other, the one nullifying and hampering the work of another. They have been without a responsible head because of this subdivision and because the chief of the most important of these bureaus, the Surgeon-General of the Public Health and Marine-Hospital Service, can not express an opinion or give information until he has consulted the Secretary of the Treasury.

The Secretary of the Treasury was not selected as a cabinet officer because of his knowledge of the public health, but because he was an expert on finance. At present our cabinet expert on finance directs government activities in controlling bubonic plague, and the board of trade and the commercialized physicians of San Francisco would be more important in his eyes in all human probability than the chief of his subordinate bureaus; at all events, this was true as to a previous secretary.

BUBONIC PLAGUE ON THE PACIFIC COAST.

When the bubonic plague broke out in San Francisco in 1900—one of the importations from the Orient, known in former times as the black death or the plague—the city board of health of San Francisco quarantined the Chinese district.

[It is the most deadly epidemic disease known to men. In the outbreak in Bombay 220,000 cases gave 164,000 deaths. This disease, as the black death, killed 68,596 people in London in 1665, nearly half of those who remained in the city.] The United States circuit judge on June 15, 1900, influenced by the commercial spirit of San Francisco, declared the city quarantine illegal, gratuitously observing in his opinion:

If it were within the province of this court to decide the point, *I should hold that there is not and never has been a case of plague in this city.*

This high authority on bubonic plague would also have decided, "if within the proviuce of his court, that there never would be a case in San Francisco." His judgment in the one case would be as persuasive as in the other.

Bubonic plague was then in the city. It is now scattered over the Pacific coast at points a thousand miles apart, and is requiring enormous sums of money to stamp it out, and it has not been stamped, but is now endemic and spreading through the infection of ground squirrels and rats, which continually infect each other and spread the germs of the disease over enlarging areas.

This opinion of the United States circuit judge was followed with an immediate federal quarantine of the State of California, which was the duty of the government officers in charge under the obligation of the United States to the several states of the Union and to the nations of the world. The Marine-Hospital Service officials in San Francisco declared this quarantine.

The governor of California, the senators of California and the commercial bodies of San Francisco immediately suppressed the Marine-Hospital Service, compelled the Surgeon-General to yield, proved a false case and made it temporarily stand as the truth before the country. They furnished evidence and proved (?) that there was no bubonic plague in San Francisco, notwithstanding the fact bubonic plague was there in sober truth.

The Marine-Hospital Service finally persuaded the Sec-

retary of the Interior to cause an inquiry in January, 1901, through experts of the highest class. This unanswerable authoritative report was made on February 26, 1901, finding numerous cases of bubonic plague in the heart of San Francisco. The United States quarantine law (sec. 4) required its immediate publication. It was suppressed until April 19, 1901, and until it had been given publicity by the Occidental Medical Times, the Journal of the American Medical Association, the Medical News and the Sacramento Bee.

Again the commercial interests of San Francisco triumphed over the bureau, and compelled the Surgeon-General, the head of the bureau, by an order of his superior officer, the Secretary of the Treasury, to agree to suppress this report, contrary to the obvious moral and sanitary duty of the United States. From that time bubonic plague has widened the area of its terribly dangerous infection from Los Angeles to Seattle, passing from rat to rat and squirrel to squirrel, and from these animals to an occasional human being through the agency of the common flea. Various experts of the Marine-Hospital Service, who immediately after the report of 1901 discovered the infection outside of San Francisco and reported the truth, were by some strange fatality shortly after their several reports removed from such duty faithfully performed and sent to the ends of the earth—to Honolulu, to Ecuador and so forth.

It is a most interesting history, the details of which might with propriety be given to the Senate as showing the destructive power commercial interests can exert over the faithful servants of a subordinate bureau.

The point I wish to emphasize is that the bureau dealing with public health was easily suppressed by commercialism and its supposed interests, putting in jeopardy the national health, the national honor and the national wealth and treasury, and required to withhold and suppress the truth, in violation of section 4 of the quarantine laws of the United States.

In 1908 we expended for the suppression of plague

$228,337.22; in 1909 we expended for the suppression of plague $337,403 13; for 1910 we appropriated $750 000 and $187,771 unexpended balance—in all, $937,771—for the prevention of epidemics of cholera, typhus and yellow fever, small-pox and bubonic plague (called also Chinese plague or black death). All of this appropriation was really needed for bubonic plague, which was the only epidemic seriously threatening the United States. Fortunately we have $724,000 of this on hand. So, from no danger, Mr. President, in 1901, 1902 and 1903, the danger grew to the request for an appropriation of over $900,000 in 1910. There has been over a million dollars appropriated and the plague has not been suppressed. The bureau was prevented giving publicity to the truth, and Mazatlan, Mexico, was infected in consequence of no sufficient precaution.

THE CONSERVATION OF LIFE, HEALTH AND EFFICIENCY.

Mr. President, I believe in the conservation of our natural resources—of our coal fields, oil and gas fields, water powers, forests and mines; the development of our natural resources in establishing good roads and improving out waterways.

The conservation of these great natural resources of our national wealth are of great importance, but the conservation of the life of our people is of far greater importance, and the conservation of the vitality and efficiency of our people is a problem of the first magnitnde, demanding immediate intelligent attention.

I earnestly invite the Senate to consider Senate bill No. 6049 and the Report on National Vitality, by the Committee of One Hundred on National Health, which has been published as a Senate document, and which gives in a compact form the essential principles relative to this matter, an abstract and summary of which I insert as Exhibit 1.

Under a department of public health these problems can be worked out with far greater efficiency. The co-operation of the authorities of the several states of the Union and of the municipalities of the several states, each one operated

along the lines of constitutional propriety, can be established by a department of public health with much greater efficiency than through a subordinate bureau.

Indeed, under a subordinate bureau such co operation is impracticable. The bureau has not sufficient dignity or power in an emergency. It has no national standing. It can not take the initiative, but must always stand subject to the orders of a secretary too greatly influenced by mere apparent commercial and fiscal interest. A bureau of public health so controlled is painful, if not despicable, as an agency of an enlightened nation.

Mr. President, I present this matter to the Senate with no pride of authorship, because I deserve no credit in that respect, and am perfectly willing to assist a bill drawn by any other senator which shall better accomplish the purposes which I have at heart.

DR. R. R. DUFF IS NOW PROFESSOR.

At a recent meeting of the faculty of the College of Dentistry, University of Illinois, Dr. Roden Robinson Duff was honored by being unanimously elected Professor of Surgical Diagnosis and Anesthesiology. This promotion is in due recognition of Dr. Duff's efforts and ability along surgical lines, and of the interest he manifests in all his instructions.

Dr. Duff was born in Pioch, Nevada, March 2, 1878. Upon his graduation from the University of Missouri he took up the study of medicine, completing his course at the Dearborn Medical College, Chicago, in 1907. The following year he secured a post-graduate diploma from the College of Physicians and Surgeons.

For seven years he was engaged as surgical nurse in the following hospitals: Santa Fe Hospital, Topeka, Kansas; Cook County Hospital, Chicago, and Wesley Hospital, Chicago. In these institutions Dr. Duff received excellent training and showed his aptitude for the surgical field. He is a member of the following organizations: Chicago Medical Associa-

tion, American Medical Association, Chicago Physicians' Club, Illinois State Medical Association and the Chicago Anatomical Association.

Dr. Duff has been connected with the College of Physicians and Surgeons since the fall of 1907, when as postgraduate student he was assisting in the anatomical department. He is now senior demonstrator of anatomy in this college, instructor in anatomy to the senior class of nurses of the West Side Hospital, and professor of surgical diagnosis and anesthesiology in the College of Dentistry.

As a demonstrator and instructor Dr. Duff is held in high esteem by all the students, while older men on the faculty who have watched his efforts are pleased with his results, and predict a brilliant future for him as a surgeon.

NU SIGMA PHI.

By a Freshman Girl.

The advent of nineteen hundred and ten ushered in a new era of progress for the sorority of P. & S. For many years a chapter house had been considered a desirable acquisition, but it had always remained a hazy dream. To the upper class members of Nu Sigma Phi is due all credit for the cozy home they have established.

Truly nothing can be accomplished without effort and perseverance; and with this sentiment in mind they set about to accomplish their aim. There were many obstacles at first; but what enterprise has not had? Their indomitable will power and inexhaustible energy conquered all, and made the reward worth while and the more appreciated.

Originally the idea was to establish a house; they have done infinitely more, they have evolved a *home*.

As a house, there is a conveniently appointed apartment on the boulevard, whose door panel bears the letters, "Nu Sigma Phi." Within is found all that is needed for modern comfort, from a spick and span kitchen, with its shining kitchen utensils, to a parlor with a piano for the musically inclined and good books for those whose culture is literary.

It is almost an axiom, because so generally agreed, that masculinity demands something more than music and poetry to keep a sweet temper. We, medically inclined, will likewise agree that even the daintiest bit of femininity demands a replenishment of energy in this busy city; hence the members of Nu Sigmo Phi have also caused a dining room to spring into existence.

As a home, one need only be acquainted with the members and learn of their sweet dispositions. Truly here are evidences of the sentiment that higher education and practical professional training need not detract from one's most cherished and lovable feminine attributes.

The girls of Nu Sigma Phi wish to thank all who so generously contributed, and all succeeding classes will be grateful to the members who built up such an ideal home.

THE COMING COMMENCEMENT.

The fiftieth Annual Commencement of the University of Illinois School of Pharmacy (Chicago College of Pharmacy) will be held at the Central Auditorium of the Y. M. C. A., Chicago, on Thursday afternoon, April 28th, beginning at 2 o'clock.

The graduating class numbers about sixty. Prizes and honors will be awarded by members of the faculty. The degrees will be conferred by President James, of the University, and the address of the afternoon will be made by Mr. Thomas Whitfield, of the Class of 1860.

FRATERNITY BANQUET.

The Chi Chapter, Kappa Psi Fraternity, located at the University of Illinois School of Pharmacy, held their annual banquet and installation of officers in the Gold Room of the Boston Oyster House on Friday evening, April 9th. About sixty of the members of the Chapter were present, and all enjoyed themselves greatly.

Mr. J. Bryce Carpenter, Past Regent, responded to the toast, "The Class of '10," and Mr. T. A. Nooner, newly in-

stalled Vice Regent, responded for "The Class of 1911." Mr. Carpenter recommended the inauguration by the fraternity next year of a social meeting in the nature of a reception to all the students of the School, which would undoubtedly link the members of the student body more closely together socially, and would grow year by year into an important social event in the life of the School.

Professor C. M. Snow responded for "The Faculty," and spoke of the high standard of scholarship maintained by members of the fraternity. Mr. Herbert E. Kraft, who has recently spent two years in pharmacies of Italy and Germany, spoke of the high standing of the German student fraternities or "corps." Mr. Clemence Zimmerman responded for "The Ph. C. Class of '09," and Mr. H. August Langenhan, one of the charter members, gave the younger members some good avice.

A. E. HISS.

E. Emil Hiss, of the Class of 1887, died at his home in this city on the 6th of April. He had been in poor health for a year or more.

Mr. Hiss was well known in Chicago drug circles, having at different times successfully conducted pharmacies in various parts of the city. He was born in Paris, France, in 1866, but his family came to America in 1868 and settled at Lemont, Ill. The young man entered upon his pharmaceutical career as an apprentice in the drugstore of J. G. Bodenschatz, of Lemont. In 1885 he matriculated in the Chicago College of Pharmacy, graduating in 1887. Subsequently he was employed in the pharmacies of A. E. Ebert, Henry Schroeder and R. E. Rhode, and for several years was connected with the National Institute of Pharmacy. For a year Mr. Hiss was assistant in materia medica at the Chicago College of Phermacy, and 1892 he served the College for a few months as Actuary. The same year he received the appointment of Professor of Pharmacy in the Valparaiso School of Pharmacy, then recently organized. After a year of

teaching Mr. Hiss returned to Chicago and engaged in the drug business as a member of the firm of Hiss & Rimmele. Subsequently the firm dissolved, but Mr. Hiss continued to conduct a drug business on his own account. Two years ago he sold his drugstore at 31st street and Wentworth avenue, and made a trip south in an effort to regain his health. Last year he purchased the drugstore of Whaley Bros., at 39th and State streets, which he conducted until his death.

An indefatigable worker, Mr. Hiss found time for compiling and editing several practical formularies for the pharmacist's use. These were: A Thesaurus of Proprietary Preparations (1898), A Manual of Soda Beverages (1904) and The Standard Formulary.

In the first edition of the Formulary he collaborated with the late A. E. Ebert. A second edition, double the size of the first, was prepared entirely by Mr. Hiss, and appeared in print a few days before his death.

SCHOOL OF DENTISTRY

DENTAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

BATAVIA, ILL., APRIL 20TH, 1910.

SAVING THE CHILDREN'S TEETH.

The Chicago Record Herald of April 16 gives the following editorial, which indicates a high appreciation of dentistry:

In the matter of physical well-being the minor points are as important as the major ones: or, rather, there are no minor points at all. Unsuspected eye-strain may bring on a long series of obscure but serious troubles. Neglect of threatening conditions of the mouth and jaws may lead to difficulties quite as regrettable.

The importance of these considerations is coming in for wider recognition, That children in particular should start life with a fair chance of good eyesight and good teeth is now acknowledged as a concern of high consequence, and one that justifies a considerable expenditure of care, thought and money. Funds have been established in several cities to insure the young against too early a physical deterioration, with well-equipped dispensaries for furthering the founders' intentions.

Chicago will give hearty welcome to its own first free dental dispensary, which will soon begin its career of good service in the stockyards district. Here the teeth of the children will be taken in time. Our foreign population, in large part, have grown up outside of that tradition of sound dentistry which is one of the comforting realities of American life, and are frequently as ill-equipped with means as with knowledge. The United Charities, by which the enterprise is to be conducted, will remedy such deficiencies—at least in so far as concerns the younger generation. Besides the customary

services performed gratis, and the provision of toothbrushes and tooth powder at nominal charges, there will be short lectures on the teeth and a distribution of pamphlets on the general care of the mouth.

The undertaking is expected to work a decided improvement in the juvenile morale. It is hoped that children who are backward in their studies will be brought forward, and that those who tend to any of the various forms of delinquency will be steadied and rectified. The co-operation of the Englewood Dental Society is pledged, and many young scholars, threatened victims of necrosis, will doubtless be saved from the hospital, where children do not rightly belong, for the school, where they do.

ILLINOIS STATE DENTAL SOCIETY.

The forty-sixth annual meeting of the Illinois State Dental Society will be held in Springfield May 17, 18, 19 and 20, 1910. In an addition to an especially good list of essays and clinics, an unusually attractive supply exhibit is being planned. J. F. F. WALTZ, Secy., Decatur, Ill.

HUTCHINSON'S TOOTH.

Dr. Joseph Cavallaro, of Florence, Italy, writes an interesting article on syphilis and dental troubles:

The tooth with the crescentic notch was first believed by Hutchinson to be an absolute and pathognomonic sign of hereditary syphilis.

No other lesion resembles Hutchinson's tooth. The artificial dental malformations which can simulate the alterations of hereditary syphilis on the central incisors are infrequent. We note among them the erosions due to the use of the pipe, the professional deformations described by Morel Lavallee in shoemakers, produced by the habit of holding in the mouth the tacks used for fixing the soles. Such deformations consist in a wearing out of the enamel on the free edge of the tooth, almost in a crescentic form.

Fournier and Hallopeau maintain that they have never

noticed Hutchinson's tooth except in hereditary syphlitic subjects. We have seen that the upper inscisors calcify during the earliest months after birth. Just at that time eruptive fevers are rare, and any other serious disease capable of producing alterations of the dental follicle may very easily cause the death of the child. Only hereditary syphilis, if it be not serious enough to produce abortion or the death of the new-born (the mortality among hereditary syphilitic children is 68 per cent., according to Fournier) is capable of manifesting its noxious influence in a general way on the whole organism, and particularly on the dental system, and of producing Hutchinson's tooth.

A few authors deny this absolute value of Hutchinson's tooth, and affirm that the erosion has been found in subjects born of healthy parents and free from any syphilitic influence. Apart from such cases being isolated and very rare indeed, could it be proved that they are really authentic and assuredly found in individuals not only free from heriditary syphilis, but also from inherited hereditary syphilis, surely the great frequency and the exclusiveness with which the semi-lunar erosion has been found in hereditary syphilis (eleven times in thirty-seven cases, according to our observations), authorize us to conclude that the typical lesion of Hutchinson is to be considered as a pathognomonic sign of hereditary syphilis.—Dental Cosmos.

SENIOR NOTES.

ABBOTT ALKALOIDAL COMPANY ENTERTAINS.

The Abbott Alkaloidal Company entertained the members of the Senior class at its large plant in Ravenswood, on Saturday, April 9. The trip to this establishment was a novel one for all, as they were shown through the entire plant, and demonstrations given in each department in the manufacture of drugs.

On arriving at the plant a photograph of the class was taken, which later was developed on a glass slide and ex-

hibited by a stereoptician. Each member was also presented with a photograph.

After the tour of inspection, the class was gathered about a large banquet table, ladened with all the appetizing foods of the season.

Following the sumptuous feast, a program of toasts and speeches was held. Dr. Abbott, president of the company delivered an address of welcome and complimenting the members on their seemingly professional conduct and attitude, and, then, incidently, spoke of his goods.

Paul M. Currer: president of the class, replied most appropriately. Mr. Daniel de la Paz also spoke.

SOME MORE FIRST PLACES FOR P. & S.

Douglas took first position at the Englewood Hospital.

John M. Kara made first place at St. Anthony's Hospital with Alexandea Roemisch a close second. Mr. Sykes got third place. Mr. Kara will resign to take the County hospital and this will give Mr. Righeimer an opportunity to enter St. Anthony's.

Messrs Daniel de la Paz and Manuel D. Foronda have successfully passed the Civil Service examination given by the United States Commission for Physicians in the Phillipine service. The examination was held in Chicago on March 9, 1910. Their appointment will begin upon arrival in the Islands.

As a result of the Poly Clinic Hospital Examination, C. O. Epley secured third place, Bartholomew Kunny made fifth place and Mr. Sykes made sixth.

STATE BOARD EXAMINATION.

The Illinois State Board Examination was held April 14, 15 and 16 in the Tax Extention Room, County Building, Chicago, Ill.

Many undergraduates made efforts to take the examination at this time but the faculty of our institution limited

the number to those students who have received credits in all subjects except Medicine and Surgery. This made it practically impossible for one to take it unless he had previously taken at least one summer course.

The following Seniors took the examination: Carpenter, Cohn, Clegg, Eede, Graner, Gillispie, Heins, Largent, LeBeau, Maley, McGarry, Mrs. McGarry, O'Donnell, Stanley, Siegler and Smith.

The following are the subjects:

CHEMISTRY.

1. Differentiate a normal from an acid salt.

2. How many kinds of Chemical Reactions are there? Name them.

3. Mn O + 2 H Cl =.

4. What action when H_2O is added to Oxides.

5. Gastric analyses suspected poisoning. How would you detect strychnine? Atropine?

ETIOLOGY AND HYGIENE.

1. Etiology of arthritis deformans.

2. Etiology of bronchieltasis.

3. How would you disinfect a room in which there had been an infectious or contagious disease.

4. Discuss school hygiene.

5. Outline general management of a home with an infectuous disease.

PHYSIOLOGY.

1. Origin, function and termination of thoracic duct.

2. Physiology of spleen.

3. Name three glands with internal secretions and give functions of each.

4. Physiology of retina.

5. Name enzymes of different digestive fluids.

6. How are fats digested.

7. How does portal obstruction affect the hemorroidal veins.

NEUROLOGY.

1. Give your treatment of Migraine.

2. Describe a case of progressive muscular atrophy.

3. Differentiate locomotor ataxia from ataxic paraphlegia.

ANATOMY.

1. From what is fibrous connective tissue developed?

2. Name veins emptying into right subclavian.

3. Name blood supply of brain.

4. Differentiate between a false and true corpus luteum.

5. Name organs entering into cerebes spinal system.

6. Name branches of subclavian artery.

7. Origin, insertion, action and nerve supply of gracilis.

8. What bones enter into the formation of the elbow joint? Name ligaments of this joint.

9. Describe the lesser or pulmonary circulation.

10. Where does the heart get its inhibitory and accelerator fibres.

SURGERY.

1. Etiology of traumatic gangrene. Give proper treatment.

2. Describe different micro organisms causing putrefaction.

3. Describe what antiseptic measures you would institute prior to a surgical operation.

4. Outline treatment for skull fractures.

5. What is thyrotomy? How would you perform it?

6. Give symptoms of perforative appendicitis.

7. Etiology of liver abscess. Outline treatment of same.

8. Name clinical varieties of Hernia.

9. Give treatment and prognosis of wounds of the kidney.

10. What is a malignant tumor? Difierentiate between a malignant and a nonmalignant tumor.

MATERIA MEDICA AND THERAPEUTICS.

1. Name several preparations of iron and give dose and uses of one.

2. Name three preparations of mercury. Give action and uses of one.

3. Name four bitters. Mode of action and uses of one.

4. How would you secure elimination by way of kidney, bowels and skin? What would you do? What would you give.

5. Name drugs that depress spinal cord and give uses of them.

6. How many classes of duiretics do you know and when would you use them.

7. What drugs wodld you give to lower blood pressure. Their indications and dangers.

8. How many cardiac stimulents do you know. Give mode of action and uses of one.

9. Give therapeutic indications of opium or its preparation.

10. Define anthelmintic. Give example and dose of one.

PATHOLOGY.

1. Name some pathological conditions in which elemination of urea is increased.

2. Describe pathology of three stages of labor pneumonia.

3. Give pathology of catarrhal inflammation.

4. Give pathology of ophthalmia neonatorum.

5. Describe pathology of hydrocele.

BACTERIOLOGY.

1. Give method of staining for gonococcus. How does it appear under the microscope.

2. Describe comma bacillus and tell how it enters the system.

3. (*a*) Give method of demonstrating tubercle bacilli in milk. (*b*) What organisms resemble it and how are they differintiated. (*c*) Outline laboratory method for examining tubercle bacilli in milk.

4. Describe method of examining the Plasmodium malarial.

5. What conditions are necessary for the production of infection.

PHYSICIAL DIAGNOSIS.

1, Give topographical anatomy of lung.

2. Locate the valves of the heart.

3. Make diagram showing characteristics of aortic stenoses and aortic regurgitation.

4. What conditions lessen and increase absolute cardiac dulness.

5. Enumerate rales. In what conditions are each found.

OPTHALMOLOGY AND OTOLOGY.

1. Give symptoms and treatment of trachoma.

2. Give symptoms and treatment of iritis.

3. Give anatomy of middle ear.

PEDIATRICS.

1. Etiology and symptoms of cerebro spinal meningitis.

2. Symptoms and treatment of cretinism.

OBSTETRICS.

Name the blood supply of the uterus. Describe the uterine circulation.

2. Describe the fetus of five months. Describe a fetus of eight months.

3. Give the changes that occur in the external genitals during pregnancy.

4. Describe the objective signs heard by auscultation.

5. Differentiate between true and false labor pain. Outline three stages of labor.

6. Give causes, prognosis, dangers of precipate labor and outline its treatment.

7. Describe a spongylolisthetic pelvis.

8. What conditions may cause sudden death of mother directly after delivery.

9. Describe the anterior fontanel and name the sutures leading from it.

10. Discuss puerperal septicemia and give its causes.

GYNECOLOGY.

1. Differentiate ascites and a large ovarian cyst.

2. Describe pudendal hernia. Give its causes, symptoms and treatment.

3. Give signs and spmptoms of pelvic infection. When would you operate.

4. Indications for hysterectomy. Outline technique for vaginal hysterectomy.

5. Describe a caruncle of the urethra.

6. Differentiate between tuberculosis and gonorrheal cystitis.

LARYNGOLOGY AND RHINOLOGY.

1. Describe a method of inturbating the larynx.

2. Most common causes and treatment of epistaxis.

MEDICAL JURISPRUDENCE.

1. Descrice a fetal lung and the changes that occur after respiration.

2. Give symptoms of strychnine poisoning.

PRACTICE.

1. Causes, diagnosis, treatment and prognosis of secondary anemia.

2. Causes, diagnosis, treatment and prognosis of pleurisy with effusion. Differentiate between an exudate and a transudate.

3. Causes, signs, diagnosis and treatment of subacute endo carditis.

4. Causes, diagnosis, treatment and dangers of high blood pressure.

5. Write one page at least on one or more phases of an acute infectious disease.

6. Write one page at least on any one phase of a chronic nervous disease.

7. Give treatment in minute detail of any digestive disease.

8. Write what you know about the diagnosis of tertiary syphilis.

9. Write at least one page on any phase of Brights disease.

10. Outline the treatment, omitting drugs, of chronic valvular disease of the heart.

JUNIOR NOTES.

Now that the county reports are out and the excitement over the great showing made by P. & S. men has quieted down, attention is drawn to the present Juniors' chance to uphold the standard established, and a great deal of "dope" as to the individual and collective merits of the class is being worked out by its members.

Up to date, reports of vows of vengence from our friendly rivals in other schools encouraging remarks for the Junior class from our professors and a silent modest determination among the students serve to keep up the excitement and in the midst of all this "hurrah" the Junior class has started on the long hard grind of quiz class work.

To be sure, this is a very early date to make any predictions but with a large quiz class, whose members will get down to work, assisted by the same capable instructors which the last quiz class had, there should be no doubt that we can equal or even out do this year's showing.

Although we have no McNealys in our class there are many who have the proper material in them to be whipped into shape in the next ten months.

If the faculty will aid us all they can in the way of giving us good instructors, be on the look out for anything which may benefit us as, new methods, the "meat" from the latest medical literature, clinics with special attention as to the needs of county quiz men, the results obtained will repay us all for the work put in.

Now lets all get together for a long steady pull and make a record in 1911 which will reflect honor on the College of Physicians and Surgeons.

We regret the departure of our pit nurse, Miss Franke, who, we understand, has gone out to do private nursing and we wish her great success and at the same time extend a hearty welcome to her successor, Miss Wolff, who by her

quiet and winning ways has already made a "hit" with the Junior class.

It has been noted that especially some of the Junior house staff are making strenuous efforts to be agreeable to her.

The Juniors on learning that Dr. Dyas became engaged to a certain young lady in Hinsdale, gave him a royal reception when he appeared April 13. Congratulations "doctor."

Several of the newly elected class officers have been noticed hovering around the class pictures to behold and admire the places assigned thereon for their visages.

Dr. Hanlin, who has kindly taken charge of our anatomy course in quiz class is giving us a course which for thoroughness cannot be improved upon. Every successive hour finds the class becoming larger and more interest displayed. Dr. Hanlin has demonstrated that he must be classed with the best anatomists in the city and we trust he will continue the work during the summer course as many of us are anxious to thoroughly cover this important branch.

Not many important events have taken place this last month but a few require notice.

Doyle has begun to chew tobacco.

Cragin got a hair cut.

Lapham still remains Doyle's chief advisor.

Kistinger has developed a wobble.

Miss Rutkus has lost those recent friends.

Barding does not talk to the girls.

Gratzek wears a broad smile.

Jones made a fine diagnosis.

Elliot is becoming a rough neck.

And —— Burt is silent.

The class extends its congratulations to Messrs Ham-

mond, Hagie, Schoenleber and Sullivan on being chosen as members of the honorary fraternity, the Alpha Omega Alpha.

The Junior class extend their heart felt sympathy to Mr. Carter and Miss Zimmerman at their recent great loss. It is indeed a great bereavement to those two members of our class to lose a parent at such a time.

SOPHOMORE NOTES.

NEW SOPHOMORE STUDENT.

The Sophomore roll book was increased by one name, on Wednesday, April 13, when John Arthur Rhine became a member of the class. John Arthur Rhine is the new baby son of Mr. and Mrs. Arthur C Rhine, 1734 Madison street. As soon as the class learned of his enrollment, he was unanimously elected class mascot. In a few years he may be one of the leading students in a medical school, even as his proud father is now.

IN THE BOOK WORLD.

The following books by Sophomore students have recently appeared:—The Etiology of Mumps.—Raub; The Presidency and Oppression—Sima; Diagnosis of Stomatitis.—Lauders; Best Anesthesia for Dogs.—Allen; Badger Operations.—O'Herrin; The Seventh Lumbar Vertebrae —Martin; The Hayes' Test.—Greenman.

NOT YET OR SOON.

Respectfully dedicated to Dr. Dreyer as a tribute to his profound knowledge of Physiology.

Will Doctor Dreyer give a soft exam?
Yes! When trees grow up side down,
And misers wear a crown;
When girls go back on gum,
And O'Herrin drives a milk wagon;
When women secrets keep,
And Butterfield no longer goes to sleep;

When the sun forgets to shine,
And when the stork goes back on Rhine;
When Sima no longer is a policeman,
And O'Malley explains his theory of nutrition;
When Dwyer finds out who the liver threw,
And no longer accuses Donahue;
When we no longer study Tryptophan;
And forgotten is old Indican;
When the Sox begin to play base ball,
And Doctor Fantus, does forget the roll to call;
When Jack Lavieri no longer answers "hair!"
And Bloom does hold the Therapeutics chair;
When Fleeger's law no longer bothers us,
And for beer we do not give a cuss;
When all saloons are closed up tight;
And forsaken is the old blue light;
When the piano sounds in the Y. M. C. A.,
And Stein sees stars by light of day;
And when we read in Physiologic lore,
When Aisenstaedt no longer "seems to me,"
And quizzes all shall cease to be;
When Leo Aaron Beilan,
With Peddott hand in hand shall come a smiling;
When Chicago shall go dry,
And we all sit on high;
When we all leave our ponies home,
And the Y. M. C. A. is a smoking room;
When wrecking crews shall be no more.
And Juniors give their famous prom;
And when all this wondrous Sophomore class,
Has all the State Board questions passed;
When all these things have come to pass,
Then Doctor Dyer will give a soft exam.

F. C. B. '12.

Frederick C. Lauzer has accepted an externship position in the Wyoming State Hospital for the coming summer

vacation. Most of his work will be devoted to anaesthesia. Mr. Lauzer's brother is a surgeon in this hospital. Last year Lauzer had some experience in this line and therefore it will not be a new game for him. He is going to leave for the west as soon as college closes. Very good but we respectfully suggest that he profit by Allen's experience in Therapeutic Laboratory.

FRESHMAN NOTES.

The results of the Freshman class election are as follows:—President, M. E. Lollar, 56 votes; E. H. Pea, 49 votes; Vice President, Mr. Kyle; Secretary, Miss Hurgert; Treasurer, Mr. Petty; Sergeant, Mr. Aldridge; Editor, Mr. Novak.

The officers chosen are from the representative body of the class and their success as executives during the Sophomore year is beyond any question.

The retiring officers take this opportunity to thank the class for the support given us, and the school authorities for their kind indulgence. We further assure President Lollar and his worthy lieutenants of our hearty co-operation during their term of office.

Ye editor in particular desires to thank those who have so ably assisted him by contributions, and bits of news from time to time. The opportunity to extend this thanks is taken at this period for the reason that this is the closing effort.

"Your Uncle's" birthday is April 23.

QUINE LIBRARY NOTES.

During the past month we have received the following donations to the Quine Library:

Dr Byford. Four volumes of the "Proceedings of the Royal Society of Medicine." Thanks to the kindness of Dr. Byford the library has a complete set of this valuable publication.

Dr. W. A. Pusey. The third volumn of the "Annual Report of the Carnegie Foundation for the Advancement of Teaching." And through the sqlicitation of Dr. Pusey the library has been placed on the regular mailing list and will receive the publications of this society when they are issued.

Philadelphia Academy of Surgery. The Transactions for the years 1908 and 1909.

American Association of Obstetricians and Gynecologists. Transactions for the year 1908.

Massachusetts General Hospital. Annual report for the year 1907.

Bellevue and Allied Hospitals. Medical and Surgical Report for the years 1908 and 1909.

American Medico-Psychological Association. Proceedings for the year 1909.

New York Obstetrical Society. Transactions for the year 1910.

National Association for the study of Epilepsy. Transactions for the years 1906, 1907 and 1908.

Harvard Medical School, the Department of Neurolgy. Volume three of the Contributions to Neurology.

Michigan State Board of Health. Annual Report.

Through the kind solicitation of Superintendent Browne we have received from Mrs. Sheridan, widow of the late Dr. J. C. Sheridan, of Johnstowne, Penn., a gift of thirty volumes of journals and text books. This gift is highly appreciated, and we wish that others of our friends might be so generous to the library as Mrs. Sheridan has been.

The following articles by various members of the faculty of the college have been noted in recent issues of the medical journals:

Dr. A. H. Ferguson, "Surgical Aspects of Exopthalmic Goitre," Illinois Medical Journal, March, page 273-274.

Dr. F. C. Zapffee. "Surgical Treatment of Exopthalmic Goitre," Illinois Medical Journal, March, page 274-280.

Dr. D. N. Eisendrath. "Rare Variety of Hernia Sac,"

Journal of American Medical Association, March 26, page 1049-1050.

Dr. A. H. Fergeson. "Carcinoma of the Pancreas," Surgery. Gynecology and Obstetrics, April, page 435.

THE ALUMNI MEETING.

The annual meeting and election of the Alumni Association of the University of Illinois School of Pharmacy (Chicago College of Pharmacy) was held at the school on Thursday evening, March 24th.

The reports of the officers were received. The treasurer's report showed $438.79 in the general fund of the Association, and in the Ebert Scholarship fund $366.03. It was decided to continue the active efforts to solicit funds among the alumni for the Ebert Scholarship, for which Mr. Henry S. Wellcome, of London, England, has promised a very substantial contribution.

Arrangements for the annual banquet were discussed, and in view of the fact that this is the fiftieth anniversary of the school, it was decided to make unusual efforts to have a banquet worthy of the great occasion. The new Blackstone Hotel, considered the finest hotel west of the Alleghenies, and which has just opened, was selected for the banquet.

The Class of 1885 has planned a reunion and a silver anniversary, and will have a separate table and be made a special feature of the banquet. Mr. Otto J. Hartwig, '85, has the plans for the reunion of his class well in hand, and has received word from many members of the class that they will be present.

Members of the graduating class, who are the guests of the evening, will be represented on the program, and will render several Illinois songs.

Mr. George P. Mills, President-elect of the Alumni Association, has taken hold of the banquet arrangements with his usual characteristic energy, and the success of the affair is assured.

The election of officers resulted as follows:

President—Mr. George P. Mills, '84.
First Vice President—Mr. Clyde M. Snow, '02.
Second Vice President—Miss Frances E. Wells, '05.
Third Vice President—Mr. B. J. Chvala, '04.
Secretary-Treasurer—Mr. A. H. Clark, '04.
Historian—Miss Charlotte E. Stimson, '00.

ALUMNI NOTES.

C. A. Biese, '98, is managing the Baker Pharmacy at 1002 Montrose avenne.

Theodore I. Scheips, '05, has formed a partnership with Carl A. Warner, and will conduct a drugstore at 5201 Evanston avenue, Chicago. Mr. Scheips has had wide pharmaceutical experience, and embarks on his business career with bright prospects.

Miss Hattie Erickson, stenographer in the office of the School for the past several years, was married April 3rd to Mr. Ward Gibson Leathers.

Y. M. C. A. NOTES.

The election of officers which took place last week is another reminder of the pleasant fact that the school year is rapidly approaching its termination. The Newly elected officers are as follows:—President, T. E. Inks; Vice President, E. A. McCormack; Recording Secretary, Warren Z. Earle, Treasurer, C. E. Burt; Department Secretary, C. O. Shepard. The Committee of Management: Dean Wm. E. Quine; Supt. W. A. Browne; Dr. Wm. Harsha; Dr. C. W. Barrett, Dr. George P. Dreyer.

The new officers center upon their duties immediately. They are men of a high moral and in every way well qualified for the work in this department. It is, indeed, a great pleasure to me, as retiring Secretary, to leave the work in hands of such an able and in every way well fitted man as is brother C. C. Shepard. I trust he will have the hearty cooperation and assistance of every student in the college.

A union meeting was held during the past month with the Chicago dental students which was very profitable. Their orchestra played several selections. Vocal solos were rendered and a very interesting and instructive address was given by the able orator, Rev. Dr. McLaughrin of the Second Baptist church, on the subject: "Good Citizenship."

I wish thereby to express my appreciation for the good fellowship and pleasnnt associations in the department work during my time as secretary.

Yours, A. F. Benson.

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THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

CHICAGO.

VOL. XVI. BATAVIA, MAY 20th, 1910. NO. 5

ALPHA OMEGA ALPHA, HONORARY FRATERNITY, ADVANCES STANDARD OF MEDICAL EDUCATION.

Society Organized at College of Physicians and Surgeons Is Expanding Throughout Country. Parent Chapter Has Influence for Good, and Scholarship Is Improving.

As the current collegiate year is rapidly drawing to a close; each student is silently reviewing his work and trying to arrive at some definite conclusion as to what the fruits of his efforts have been. But to the faculty and the alumni, who have been watching the general work of the student body and comparing it with that accomplished in previous years, the results of this year have been gratifying.

The classes have been manifesting deeper interest in the studies, availing themselves of all the clinical and laboratory work, and have even called for more.

Undoubtedly there has been some underlying influence which has brought forth a change in the student body. And this influence to a large degree can be traced to the honorary medical fraternity, the Alpha Omega Alpha, which has for its principal requirement scholarship.

Probably the best history and purpose of this honorary society can be secured from the brief article by its founder, Dr. William W. Root, an alumnus of the College of Physicians and Surgeons:

SIDNEY ALBERT SMITH.
President.

PAUL M. CURRIER.
Vice-President.

R. WILLIAM McNEALY.
Secretary and Treasurer.

WILLIAM J. SIEGLER.

GORDON G. THOMPSON

FRANK W. NICKEL.

FRANK LEE STONE.

HOWARD R. SWORD.

BEN F. LARGENT.

E. W. BENZIEN.

WILLIAM D. SCHAFER.

CHARLES PATRICK McGARRY.

WALTER C. HAMMOND.

FRANKLIN E. HAGIE.

A. W. SCHOENLEBER.

NORMAN R. SULLIVAN.

THE ANIMUS OF ALPHA BY THE FOUNDER, DR. WILLIAM W. ROOT, DETROIT.

In the first decade of the twentieth century more progress has been made in advancing the standards of medical education in America than in all the preceding years put together. Of all the influences at work during this marvelous period but one organized effort has arisen within the student body, and no future history of medicine can be complete without some reference to this influence. This is the Alpha Omega Alpha Society.

At 5 o'clock in the afternoon of the 25th day of August, 1902, six seniors met in the Bacteriological Laboratory of the College of Physicians and Surgeons of Chicago to register definitely their protest against a condition which associated the term "medical student" with rowdyism, boorishness, immorality and low educational ideals, and to pledge mutually to do what they could to remedy this condition. This protest arose entirely within the student body, no member of the faculty having been consulted. It was part of the original plan to give this organization the form of a non-secret, honorary medical fraternity, in order that the added prestige accompanying this idea might enable it the better to do its work. This idea, however, was to be merely a means to an end, the real motive of the organization always being the advancement of moral and educational standards both in the medical school and in the profession.

Membership is based upon scholarship as shown by the faculty records of the medical course, but the election to membership is left with the student members of the fraternity, since they alone know of dishonesty in examination or immorality on the part of candidates, either of which precludes membership. A *small number* of physicians may be selected from those who have performed some distinguished service to their fellows. Women are admitted on the same terms as men. In fact, race, color, creed, sex and social standing form no barrier to membership, the sole qualifications being scholarship and character.

To quote from Dean Quine, of the parent order: "This order is for the men who have made good," and these men form a select band, whose constantly increasing influence is helping to bring nearer the day when not only a very few medical schools in this country, as at present, but the larger number of them, shall rival any in the world.

The charter members are W. W. Root, E. S. Moore, Benjamin Thomas, C. L. Williams, G. H. Howard, W. H. Moore, W. M. Wochos, J. E. Haskell, M. W. Hall, Thomas Bryan and Fred Fanys (deceased).

Since the organization in 1902 at the College of Physicians and Surgeons, Chicago, the fraternity has expanded into a national society, with fourteen chapters, including the leading medical colleges of the country. The following is a list of the chapters:

Alpha of Illinois, University of Illinois; Beta of Illinois, University of Chicago; Gamma of Illinois, Northwestern University; Alpha of Ohio, Western Reserve University; Alpha of Pennsylvania, Jefferson Medical College; Beta of Pennsylvania, University of Pennsylvania; Alpha of Missouri, Washington University; Alpha of Massachusetts, Harvard University; Alpha of California, University of California; Alpha of Maryland, Johns Hopkins University; Alpha of Ontario, University of Toronto; Alpha of New York, Columbia University; Alpha of Michigan, University of Michigan; Alpha of Minnesota, University of Minnesota.

The officers of the national fraternity are Winfield S. Hall, B.S., MS., MD., Ph.D., Northwestern Medical, Primarius; Walter B. Cannon, A.B., A.M., M.D., Harvard Medical, Associate Primarius; William W. Root, B.S., M.D., Secretary-Treasurer.

Alpha of Illinois, the parent chapter, is composed of six teen active members, twelve of whom are Seniors and four Juniors. These are Sidney Albert Smith, President; Paul A. Currer, Vice President; R. William McNealy, Secretary-Treasurer; Gorden G. Thompson, William J. Siegler, Frank W. Nickel, Frank Lee Stone, Howard R. Sword, Ben F.

Largent, E. W. Bentzien, William D. Schafer and Charles P. McGarry, of the Senior Class; Franklin E. Hagie, A. W. Schoenleber, Walter Charles Hammond and Norman R. Sullivan, of the Junior Class.

SIDNEY ALBERT SMITH.

Sidney Albert Smith was born at Chillicothe, Illinois, February 25, 1885. He is a graduate of the Chillicothe High School, Class of 1903. During his last year in high school he was president of his class. In September, 1906, he entered the College of Physicians and Surgeons. Vice president of Sophomore Class; elected member of Alpha Omega Alpha in his junior year and president of that organization in his senior year. Member of Phi Beta Pi fraternity. Interneships: Cook County Hospital, seventh place; West Side Hospital, third place; University Hospital, fourth place. At present he is house physician at the Home for Destitute Crippled Children.

PAUL MacALLISTER CURRER.

Paul M. Currer was born in Girard, Kan., July 11, 1888. At an early age he moved with his parents to Le Sueur, Minn., where his father, a Presbyterian minister, took up a pastorate. He attended the grade schools of Le Sueur, and graduated from the high school of that city in 1906. He entered the College of Physicians and Surgeons in 1906. During his high school days he took an active part in athletics, and in his last year was captain of the football team. At the P. & S. he was assistant librarian, 1906 to 1908; assistant in clinical microscopy, '08-'09; Junior house surgeon, '08-'09; president of Class of 1910; elected to Alpha Omega Alpha in Junior year, and in his Senior year chosen its vice president. He made first place in St. Luke's Hospital in a competitive examination.

FRANK W. NICKEL.

Frank W. Nickel was born in Strausberg, Germany, on

November 20, 1883. In 1892 his parents immigrated to the United States, settling in Charles City, Iowa, where the young man received his preliminary education, graduating with honors from the Charles City high school in 1902. He studied medicine for two years in the Jenner Medical School, Chicago, and then entered the College of Physicians and Surgeons. He has filled the position of laboratory assistant in pathology in the P. & S. for four years, one year having been spent here after leaving Jenner and before matriculating as a P. & S. student. For three years he has been a quiz master in this subject. He was elected a member of the Alpha Omega Alpha this year. In competitive examinations he made the following places: Cook County Hospital, fourth; University Hospital, second; West Side Hospital, seventh. He is a member of the Phi Beta Pi fraternity.

FRANK LEE STONE.

Frank Lee Stone was born January 4, 1885, at St. Louis, Mo., where he received his early education, and later graduated from the Englewood (Chicago) high school. His first two years in medicine were taken in the Jenner Medical College, after which he entered the College of Physicians and Surgeons as a member of the Class of 1910. This year he was elected a member of the Alpha Omega Alpha. He is a Phi Beta Pi fraternity man. At present he is externe in the Augustana Hospital. In the recent Cook County Hospital civil service examination for interneship he made thirty-fifth place; in the West Side Hospital examination he landed fifth place.

HOWARD R. SWORD.

Howard R. Sword was born November 9, 1880, at Lanark, Ill., where he received his preliminary education, graduating from the Lanark high school. He was president of the sophomore class in the College of Physicians and Surgeons member of Sigma Phi Epsilon, and a Mason. This year he

was elected to the membership of the Alpha Omega Alpha. Interne at Norwegian Lutheran Hospital.

BEN F. LARGENT.

Ben F. Largent was born July 17, 1884, at McKinney, Texas, and graduated from the high school of that city in 1900. In 1904 he received a diploma from the Kentucky Military Institue. He is also an alumnus of the Nelson & Draughon's Business College, of Fort Worth, Texas. In the fall of 1906 he matriculated at the College of Physicians and Surgeons. He is a member of the Phi Rho Sigma fraternity, and this year became an Alpha Omega Alpha man.

E. W. BENTZIEN.

E. W. Benzien was born in Milwaukee, Wisconsin, September 1, 1886. He attended the public schools of that city and in 1903 graduated from the South Division high school, Milwaukee. He then took preparatory course for the study of medicine at the University of Wisconsin, where he attended two years. He matriculated at the College of Physicians and Surgeons in 1906. In the Cook County Hospital examination he made sixteenth place. He became a member of the Alpha Omega Alpha fraternity this year.

WILLIAM D. SCHAFER.

William D. Schafer was born in Scioto county, Ohio, December 15, 1886. He took his high school course at Wheelersburg, Ohio, from which he graduated in 1904. Then he spent a year at the Ohio Northern University, and, coming to Chicago in the fall of 1906, he entered the College of Physicians and Surgeons, where he is at present a member of the senior class. He made an interneship in the Cook County Hospital. He was elected to the Alpha Omega Alpha this year.

CHARLES PATRICK McGARRY.

Charles P. McGarrey was born in Chicago, November 12, 1881. He graduated from the local grammar schools in 1897 and from the Lake View high school, Chicago, in 1901. During the year 1901-2 he taught in the country schools near Logansport, Indiana, after which he engaged in business until the fall of 1906, when he entered the College of Physicians and Surgeons as member of the class of 1910. On September 1, 1909, he married Miss Helen O'Sullivan, a classmate, in this city. He secured the following internships in competitive examinations: Cook County Hospital, West Side Hospital, and County Hospital, Los Angeles, Cal. He was recently elected to the Alpha Omega Alpha.

WALTER CHARLES HAMMOND.

W. C. Hammond was born in Chicago on September 22, 1888, and attended the following local schools, of which he is an alumnus: Irving grammar school and McKinley high school, 1907. He entered the College of Physicians and Surgeons upon completing his high school course. While a student at the high school he filled a position on the football team in 1906, which won the Cook county championship. He is a member of the Nu Sigma Nu fraternity and was one of the four juniors elected to the Alpha Omega Alpha fraternity.

FRANKLIN EUGENE HAGIE.

F. E. Hagie was born February 22, 1886, at Elizabeth, Ill. He graduated from the Elizabeth high school in 1903, and from the University of Illinois, with the degree of bachelor of arts, in 1909. During his course at the university he was a member of the university band, as baritone, during the years 1906-7-8, and was its secretary in 1907-8. In the College of Physicians and Surgeons he is a member of the class of 1911. He was vice-president during the junior year and at the recent class election was chosen chairman of the executive committee for the senior year. This year he was

captain and manager of the baseball team and manager of the football team. He was elected this year to membership in the Alpha Omega Alpha.

A. W. SCHOENLEBER.

A. W. Schoenleber was born at West Bend, Wis., on June 25, 1886, and in 1904 graduated from the Rock Port, Mo., high school, after which he attended the University of Missouri for one year. He is a member of the class of 1911, College of Physicians and Surgeons, and recently was elected to the Alpha Omega Alpha. He is a member of the Phi Beta Pi fraternity.

NORMAN R. SULLIVAN.

Norman R. Sullivan was born July 17, 1889, at Malcolm, Ontario, Canada. In 1907 he graduated from the Aspen (Colo.) high school, receiving the Aspen, Colo., scholarship to the University of Denver. He entered the College of Physicians and Surgeons in 1907 and is a member of the class of 1911. He was elected to the Alpha Omega Alpha this year.

ALUMNI ASSOCIATION TO TENDER RECEPTION AND BANQUET TO GRADUATES, MONDAY, JUNE 6.

Function Will Be Most Brilliant in History of College—Leading Professional Men of City and State Will Respond to Toasts—True College Spirit to Be Manifested.

This collegiate term will end with all the pomp and glory appropriate to a successful year, and the ceremonies that are to take place will far eclipse all former efforts.

There has been an awakening in the Alumni Association, with all the manifestations of a true college spirit, sincere loyalty to the P. & S., and deeper interest in all things pertaining to the institution.

The finale in the play "Medical Studies of 1909-1910" will take place June 6, and the curtain will drop on the morning of June 7. The finale will consist of a banquet given by the Alumni Association, at which the principal guests will be the graduating class, at the Gold Room of the Congress Hotel. The following letter, sent to each alumnus of the College of Physicians and Surgeons, will explain all:

"DEAR ALUMNUS:

"The annual banquet of the Alumni Association of the College of Physicians and Surgeons, the College of Medicine of the University of Illinois, will be given in the Gold Room of the Congress Hotel, Michigan avenue and Congress street, Chicago, Illinois, on Monday evening, June 6, 1910. Reception from six-thirty to seven o'clock. The banquet will begin at seven o'clock.

"We have made a radical departure this year from past procedures, and extensive preparations are being made whereby we hope to eclipse all Alumni gatherings of former years.

"The class of 1910 will be entertained as guests of the faculty; President James and the trustees of the University of Illinois and the faculty of the College of Physicians and Surgeons will be present; a rousing good program, in which some of the most prominent men of Chicago will take part, has been prepared. A good orchestra has been engaged, college songs will be sung, toasts will be given and an evening fraught with true "P. & S." spirit will be enjoyed. The ladies are especially invited.

"Enclosed find ballot for officers for the ensuing year.

"We will take pleasure in arranging special tables for the classes of each year that may desire to hold reunions.

"The cost per plate for this banquet will be $2.50. Owing to the keen interest manifested, there is already a brisk demand for tickets. Please return the enclosed card, indicating thereon the number of tickets which you wish reserved, together with your check to cover same.

"Do not miss this opportunity of coming out and enjoying

one of the most notable events in the history of the Alumni Association. You will meet your former professors and classmates and renew old associations. Break away from the eternal grind and get back to your old college days, together with the bunch.

"Address all communications to

"PHILIP H. HOLMES, M. D. Secy.

"342 West 65th St., Chicago, Ills."

The various committees have worked under considerable difficulties in preparing for this event, which is by far the most important function ever given under its auspices or under the auspices of any organization affiliated with the college. Any alumnus who may not have received a copy of the letter may feel himself heartily invited to attend, realizing, the committees hope, that it was either impossible for them to get his correct address or some unexplainable thing occurred.

To the members of the senior class the committees extend the privilege of inviting visiting friends who may be in the city at this time. All they ask is that due notice is given them so that proper arrangements can be made.

The honorary guests will be President James, the trustees of the University of Illinois, faculty members of the College of Physicians and Surgeons, State's Attorney Way man, and prominent members of faculties of other medical colleges of Chicago.

The program of toasts will include the following: Dr. Charles E. Humiston as toastmaster, President James, Dr. William E. Quine, Superintendent William H. Browne, State's Attorney Wayman, W. J. Siegler of the class of 1910 and Dr. J. B. Eagleson of the class of 1885, who will speak on "The Alumni."

At the short business session, which will be held during the evening, an election of officers for the ensuing year will take place. The following is the list, and those entitled to cast votes are requested to send their ballots to Dr. Philip H. Holmes, secretary, 342 West 65th street, Chicago, Ill.

Ticket.—Vote for one:

For president: Bernard Fantus, H. O. Schafer. For first vice-president: E. S. Moore, C. A. Albrecht. For second vice-president: H. L. Baker, W. P. Mason. For secretary: Irene Pratt, W. R. McNealy. For treasurer: E. R. Hayhurst, W. J. Siegler. For necrologist: H. R. Brown, E. G. Earle. For executive committee: W. K. Yeakel, H. J. Stewart.

Return this ballot indicating your choice to the secretary.

It is the wish of the committees that all alumni, who possibly can make arrangements, to lay aside their work for at least a brief period and attend this affair, which promises to be the grandest and most brilliant event in the history of the college.

The curtain to the play will drop Tuesday morning, June 7, at the Studebaker Hall, when diplomas will be given to the members of the class of 1910.

EDWARD LOUIS HEINTZ, Ph. G., M. D.

THE MEDICINAL THERAPY OF DISEASES OF THE STOMACH AND INTESTINES.

EDWARD L. HEINTZ, Ph. G., M. D.

The methods of treatment of diseases of the stomach and intestines are (a) hygienic, (b) dietetic, (c) mechanical, (d) surgical and (e) medicinal. The present paper is confined to a consideration of the last named class.

The administration of acids. Diluted hydrochloric acid is the most useful member of this group. The indications for its administration are (a) cases in which the gastric secretion of hydrochloric acid is deficient, (b) cases in which the digestion during and after fevers need acid, (c) gastric cancer, (d) sick stomach following the excessive use of alcoholic drinks. The usual prescription is as follows:

℞		Cc.
Acidi hydrochlorici diluti	aa	30
Aquae		

Misce.

Signa: Take one teaspoonful in a tumblerful of water, through a glass tube, three times a day after meals. To be taken in sips during first hour after meal.

The administration of Alkalies. The alkalies are indicated in gastric derangements accompanied by an excess of acid, be this hydrochloric acid or organic acid due to fermentation. Sodium bicarbonate, calcined magnesia and chalk mixture are the most popular members of this group. These drugs may be given singly or in combination as suggested by the following prescriptions:

℞	Gm.
Sodii bicarbonatis	24
Divide in chartulas cæruleas Xii	
℞	
Acidi tartarici	36
Divide in chartulas albas Xii.	

Signa: Dissolve the contents of one white and one blue paper separately in a quarter of a glass of water, and mix

drink during effervescence. Take three (3) times a day two (2) hours after meals.

℞	Gm.
Sodii bicarbonatis	
Bismuthi subcarbonatis aa	12
Magnesii oxidi	8

Misce; divide in chartulas Xii.

Signa: Take one powder three (3) times a day after meals.

Chalk mixture is especially well adapted for administration to children. As an antacid in serous diarrhœa, the following will be found useful. The quantities are right for a child six years old.

℞	Cc.
Tincturae Kino	15
Misturae cretae qs. ad	60

Misce; fiat mistura.

Signa: Shake well before taking. Take a teaspoonful every three (3) hours.

The digestants. Pepsin, the digestive ferment of the gastric juice, should be taken with or immediately after meals. It should be combined with hydrochloric acid.

℞	Gm. vel Cc.	
Pepsini	22	5
Acidi hydrochlorici diluti	4	0
Glycerini qs. ad	90	

Misce; fiat solutio.

Signa: Take teaspoonful in half glass water, through glass tube, three times a day immediately following meals.

Pancreatin. Good pancreatin contains four pancreatic ferments, trypsin, which digests proteins, steapsin, which emulsifies fats, amylopsin, which has diastatic power, and a milk curdling ferment. It is indicated in lienteric diarrhœa and deficient digestion.

℞ Gm.

Pancreatini
—
Sodii bicarbonatis aa 12

Misce; divide in chartulas XXIV.

Signa: Take one powder three (3) times a day with meals.

Alkaline mineral waters. Representative members of this group are Carlsbad and Bedford Magnesia Spring. These waters contain salts of sodium, calcium, potassium and magnesium in sufficient amount to possess very active purgative and diuretic properties. They find their therapeutic application in cases of gastro-intestinal catarrh associated with more or less constipation and hepatic torpor. The quantity to be taken in twenty-four hours varies from one to four pints. For those patients who cannot visit the springs for treatment we may prescribe the artificial salts of the National Formulary.

Vichy, Selters and Saratoga waters have the qualities spoken of above under the heading "Alkalies."

℞ Gm.

Pulvis salis vichyani factitii effervescentis (N. F.) 120
Detur in vitro

Signa: Take a teaspoonful in a tumblerful water before breakfast.

or,

℞ Gm.

Salis vichyani factittii (N. F.) 30

Signa: For preparation of artificial Vichy Water. Take knifepointful in tumblerful of water after meals.

℞ Gm.

Salis carolinii factitii (N. F.) 30

Signa: Artificial Carlsbad salts (Sprudel). Take knifepointful in tumblerful water before breakfast.

Cathartics. These remedies, which increase or hasten evacuations of the intestines, are grouped according to their respective degrees and direction of action. In hæmorrhoids sulphur is indicated. When the secretions of the intestinal glands are to be stimulated use senna, rhubarb or castor oil. When violent peristalsis and watery stools are desired use jalap. The usual indications for catharsis demand a cholagogue and saline.

℞	Gm.
Tabellas hydrargyri chloridi mitis	0065
Sodi bicarbonatis	065
Mitte tales X	

Signa: Take one tablet every half (½) hour.

℞	Cc.
Liquoris magnesia citratis	360

Signa: Take half of coutents of bottle one hour after finishing tablets; take remaining half if bowels do not move within two hours.

The Bland Oils. Olive, cottonseed and linseed. Cottonseed oil, in quantities of 60 Cc. to 140 Cc., injected into the bowel at bedtime, and allowed to remain till morning, has succeeded in a large number of patients, suffering from chronic constipation, in curing the disease when patients would persevere with the treatment. Olive oil in doses of 30 Cc. by mouth once or twice daily is very useful in the treatment of chronic constipation.

For Relief of Pain. The proper way to relieve the pain of gastro-intestinal disorders is to remove the cause of pain. There are times, however, when an anodyne is indicated, usually, to make the patient less uncomfortable until the curative measure takes effect.

℞	Cc.
Tincturæ opii camphoratæ	15
Spiritus ætheris compositi	45
Syrupi tolutani qs. ad	90

Misce.

Signa; Take teaspoonful in wineglassful water as necessary for pain.

or,

℞

	Cc.
Spiritus chloroformi compositi (N. F.)	10
Syrupi tolutani qs. ad	60

Misce.

Signa: Take teaspoonful in wineglassful water every two (2) hours as necessary for pain.

Bismuth Preparations and Cerium Oxalate. Salts of bismuth are useful, in large doses, to cover the surfaces of inflamed mucous membranes and to allay irritation. They are used in irritative vomiting and in diarrhœa in which the stools are serous. If the passages are mucous, castor oil should precede bismuth. Bismuth is of service in dyspepsia when lactic—and butyric—acid fermentation is present with excessive belching, and in Gastralgia, Gastric Ulcer and Gastritis as a sedative and astringent.

Sedative and astringent:—

℞

	Gm.
Phenolis	7
Bismuthi subnitratis	6
Sacchari lactis	2

Misce; divide in chartulas Xii.

Signa: Take one powder every two (2) hours.

Astringent:

℞

	Gm.
Bismuthi subgallatis	3
Sacchari lactis	4

Misce; divide in chartulas Xii.

Sigma: Take one powder every four (4) hours.

Cerium oxalate is of value in cases of nervous or dyspeptic vomiting.

℞

	Gm.
Cerii oxalatis	78
Sacchari lactis	4

Misce; divide in chartulas Xii.

Signa: Take one powder every four (4) hours.

Antiseptics. In diarrhœa depending upon fermentation phenyl salicylate (salol) does great good. It should be combined with bismuth. Phenol and the salicylates are of value as intestinal antiseptics, but the latter are likely to produce untoward effeects. This disadvantage is especially true of the synthetic salicylates. Bismuth is valuable in this condition, but care must be taken to avoid its too marked astringent action. Future investigations can alone give us positive information regarding the phenolsulphonates.

Antemetics. In nervous vomiting or in that due to gastric irritation phenol does good by depressing the sensory nerves in the stomach. In Carcinoma of the stomach the following combination is usually of value in counteracting, for a time, the emesis.

℞	Gm. vel Cc.
Phenolis	1 | 5
Codenae phosphatis	
—	
Cocainae hydrochloridi aa	| 4
Aquae qs. ad	90 |

Misce; fiat solutio.

Signa: Take a teaspoonful in a wineglassful of water fifteen minutes before taking food. This may be taken as often as every three (3) hours.

Tonics, Stimulants, Sedatives and Alteratives. The important remedies of these groups are iron, the hypophosphites, the glycerophosphates, arsenic, the valarianates, the bromides and the iodides.

EDWARD LOUIS HEINTZ, Ph. G., M. D.

Edward Louis Heintz was born at Rolla, Missouri, April 27, 1874. At an early age he moved with his parents to South Dakota, where he received his preliminary education. He is an alumnus of the University of South Dakota, and in 1898 received the degree of Ph. G. from the St. Louis (Mo.) College of Pharmacy. He then entered the College of Phys-

icians and Surgeons, medical department, University of Illinois, from which he graduated as doctor of medicine in 1901.

Dr. Heintz is adjunct professor of Materia Medica College of Medicine of the University of Illinois. He was one of the founders of The University Hospital, Chicago, and is an attending physician in that institution. In various ways he has been honored by his professional brothers, as well as by numerous organizations with which he is affiliated. He is ex-vice president of the Chicago Alumni Association of the University of Illinois, ex-president of the Chicago Association of the University of South Dakota, and grand secretary of the Alpha Kappa Kappa Fraternity, which position he has held from 1902 to date. He is a member of the American Medical Association and the Chicago Medical Society.

HISTORY OF THE CLASS OF 1910.

College of Physicians and Surgeons of the University of Illinois.

Standing in the flowered door of anticipation that opens into the future, the debutante of the Class of 1910 pauses—and records the history she has made. It has been said that a nation's history is best written in the lives of its greatest men. If great principles were always to be made applicable to practical realities, here might be a suggestion for a class history. But a moment's reflection reveals the fallacy. Twenty years hence the above principle might well be made the basis of the historian's thought, but at the present such a position is untenable, and he who would hold it must prejudice his popularity; indeed, his honesty. For who can tell whether any or all may attain eminence?

The destiny which shapes our career is not "an open book, that he who runs may read," but closed and banded, opening only with the lapse of time, disclosing the joys and sorrows, successes and failures. Unfortunately, then, we must generalize, not individualize.

Freshman Class officers: William Joseph Siegler, Pres-

OFFICERS OF CLASS OF 1910.

M. D. FORONDA, W H. BRADLEY, C. O. EPLEY, W. L. HERCIK, J. S. COHN, P. A. SŒLBERG, ED. CZESLAWSKI,
ALBERT PEARSON, A. F. BENSON, L. W CARY. E. V. DALE, W. C. LOOMIS, G. J. STUBENRAUCH,
R. W. McNEALY, MRS. HELEN McGARRY, A. F. GROVE, P. M. CURRER, J. M. KARA, W. T. ROTHWELL, H. E. RICH

ident; Leon J. Ballard, Vice President; William Horace Bradley, Class Editor; Marian Eleanor Farbar, Secretary.

It was in the autumn of 1905 that most of the members of the Class of 1910 reached the great city of Chicago and began inquiry as to the location of the school where doctors were made. Before leaving home the catalogue had been digested and mental pictures formed of dissecting rooms, laboratories, libraries and books filled with big words, with men who could pronounce them all,—but now we were here. Many times we were bumped off the sidewalk while determining how high some of the buildings were; we changed street cars many times, being afraid of the cars which ran in the air, and, forgetting to call for transfers each time, were compelled to pay as many fares.

With all our troubles we arrived at the P. & S. in time for the annual opening address, where we began to take our first voluminous notes in true Freshman style. After the address Dean Quine assured the class that he would "continue to occupy the chair of medicine until we were graduated," and invited us on an inspection tour of the buildings while the floor was being cleared for those who wished to "trip the light fantastic."

Bright and early the next morning the corridors took on a verdant hue as the Freshman class assembled for work. The upper classmen were just getting in. Up to these the Freshman looked, and asked themselves, "Oh, can we ever become supremely wise? Can we ever smoke cigarettes as they?" The more they thought the more miserable they became. "Misery loves company," and so they, the very personification of misery, sought companionship of others, miserable like themselves. Many times was the question hesitatingly asked, "Are you a Freshman?" If the answer "Yes," how their faces brightened, and how the questions flew: "Where are you from?" "How many years have you taught?" "Have any trouble getting in?" and the like. Friendships were made that day that time can never destroy. At 9 o'clock the Freshman class were all seated in the *front*

seats of 305, and anxiously awaited the appearance of Dr. Eckley, who bounced in like a rubber ball and began conversing learnedly on the body, canal, processes, borders, angles, facets, trochanters, tuberosities condyles, epicondyles, etc., and then announced that Dr. Kuznic would give the course on anatomy. He made his exit as though he was in for a home run, and the silence was broken by the shuffle of schedules as the Freshmen began to see what came next. Here was materia medica, histology, pharmacology, biology and embryology, names he never dreamed of, are to occupy his attention, and he is positive he is "up against the real thing." The first day is ended, and singly or in groups of three or four they pay their first visit to Speakman, who, with his winning smile, takes his first rake-off. They began to rumor that "He is a hold-up man," and consult "Major" and the janitors as to the advisability of buying second-hand books.

Days go by and reserve disappears. Gradually congenial groups occupy different portions of the amphitheater and laboratories; they begin to laugh and applaud when the professor gets off his yearly joke, and are fast learning to be typical "medics." "Passing up" is one of the earliest and most appreciable diversions, and he who is most willing and competent to demonstrate the time-honored art is the object at once of both envy and admiration. In the process furniture and wearing apparel are a matter of indifference; as also are the feelings and wishes of the one passed up. But even this sport, fascinating as it is, requires variation; and it is furnished by burning newspapers, throwing dissecting towels, snowballs, holding luckless offenders at bay with a fire extinguisher, etc., to the thousand and one things the fertile brain of a Freshman is capable of suggesting and executing.

The dissecting room furnishes for some time a sort of uneasy anticipation, which, when realized, becomes the subject of his conversation, letters and thoughts, and later the source of his most interesting reminiscences. One of the

great events of the year to the Freshman is his first participation in the obstetric art from the top row of the amphitheater. No matter how many hours of tiresome waiting, he is faithful to the end, and is rewarded if he only catches a glimpse of sheets—and assistants. Suddenly there is a silence, a sight of blood, a fainting and dragging out, to be broken only by Dr. Bacon performing the spanking act, and finally there is wafted to his eager ear the first unhappy cry of the new-born babe. Somewhat sheepishly he goes to classes next day, and if he "flunks" he is sorry, but feels the forfeit a paying investment. In the second semester he learns in the blandly smiling Gehrmann, a harmless-looking man, the evidence to the fact that a smile is not always the greatest consolation when you are not thoroughly acquainted with your case; and when you get his it means there is something doing.

Sophomore class officers: Howard Russel Sword, president; Sidney Albert Smith, vice-presieent; William George Epstein, editor; Charles Patrick McGarry, secretary; Lee Winfield Cary, treasurer.

From the freshman to the sophomore is but a step in the process of evolution. The D. J.'s have now passed the portals of entry and look with disdain on the new "freshie," complacently puffs a cigarette, views with evident satisfaction his well creased trousers. Like Solomon of old, "he knows it all." Progress always involves new obligations and our freshman of a year ago is soon learning the effects and cause; he has taken everything from croton oil to "Ritter's best" and quotes Dr. Fantus as authority. He has passed up, been passed up and it has become the habit to clear the front seats during intermission. On the arrival of the lecturer the backs of the seats are kicked out and the ceiling raised in giving him recognition.

There were many amusing occurrences and circumstances which occurred during this year, but with those who have been through it, the memory is yet fresh and we merely drop here a nucleus about which in after years may

be grouped your historic reveries. When in the midst of a busy practice, an evening comes that you may sit by the grate with your dear wife—oh, what a dream!—and permit your thoughts to ramble back to the sophomore year, it will bring to memory, drudgery and pictures of the place described in red letters with smoke curling above. It possesses neither the novelty of the first year nor the interest of the third and fourth, during which the principles previously learned are applied.

Then "second year" adieu. Upon thy altar night after night we have burned the landlady's oil till midnight and past; we have sacrificed to thee one precious year of four and take for ours impressions and facts that shall last forever.

Junior class officers: Walter Irving Firey, president. Daniel Edward Meany, vice president; Homer E. Rich, editor; Marion Eleanor Farbar, secretary; Lewis Harlan Athon, treasurer; Frederick C. Parker, sergeant-at arms.

"When we were juniors" recalls many pleasant incidents as well as much hard work. Those who failed to comply to the latter case appreciated the value of a "flunk slip." After we had risen from sophomorism what joy betook us. The laboratory work all off; no more washing potatoes, no beef tea to make nor agar agar to prepare, no more unknowns to solve, no more pathological specimens to imbed and draw. That all seems nice, but when we began to add up:—medicine, 10 pages; surgery, 30 pages; gynecology, 10 pages; obstetrics, physical diagnosis, etc.—well, that looked different.

However, the most of the class were happily rewarded and many the pleasures and joys which we received from this year. Yet as the joys and pleasures of individuals are at some time interrupted, so was the class of 1910, when death entered our midst and in this one year claimed three of our faithful flock. The first to be called was our dearly beloved James Donahue, whose studious attitude gained for him the appointment as assistant house surgeon, as well as

the respect and good will of his fellow students. Strange as it may seem, when we were on the subject of typhoid fever, Victor Johnston contracted the disease and died in the University Hospital. Thus was ended the promising career of a bright and congenial young man. A few weeks later Harvey Pitt succumbed to an attack of appendicitis. While Mr. Pitt had been with us but one year he had gained the confidence and good will of the class and was elected as a member of the executive committee for the senior year.

This year we leave with a gentle hand and a moistened eye. Some remained to take the summer course, others entered hospitals, and the remainder sought repose in the quiet little country towns, where they posed as "big docs," treating corns, bunions and ingrowing toenails.

Senior class officers: Paul MacAllister Currer, president; Arthur Francis Grove, 1st vice-president; John Mathew Kara, 2nd vice-president; Ray William McNealy, valedictorian; Will Horrace Bradley, historian; Paul Arthur Soelberg, editor; Joseph Samuel Cohn, associate editor; Helen O'Sullivan McGarry, secretary; William Thomas Rothwell, treasurer; Homer E. Rich, prophet; Edward F. Czelawski, poet; Clarence Oscar Epley, chaplain; Manuel Directo Foronda, artist; executive committee: Lee Winfield Cary, chairman; Axil Ferdinand Benson, secretary; George Jacob Stubenrauch, treasurer; Edna Valeria Dale, Albert Pearson, Western Cass Loomis, Harvey Pitt.

At last we come to the final chapter. A few, very few, were here to see Superintendent Browne, with watch in hand, ("Oh, how natural,") giving "Major" orders to arrange the settings of the last act. The freshman of 1905 has become the Senior of to-day. The troubles and trials of preceding years are all forgotten in the presence of more urgent obligations. The class has grown from 86 to 138 in number; in age ranging from 21 to 60, the average being between 25 and 30. However be it understood the ladies are not included in this record owing to the difficulty of obtaining accurate data. To some extent the frivalities of life

have lost their attractiveness and the class meetings of the Senior class are compared to those of the earlier years, as is the peaceful summer evenings, to the raging storms of the sea.

Nor is this the only evidence of growing dignity, for a few of the more fortunate have taken upon their innocent faces, the characteristic markings of "Uncle Silas."

With the work of this year the student passes from the general to the concrete, from text-book knowledge to the bedside realities, and he appreciates, as never before, the difference between theory and practice. It is one thing to be able to recite in A B-C order the manifestations of a given disease, and another to elicit those symptoms from the patient; to be able to sift out the important, and finally to arrive at the diagnoses and direct the treatment. It is here that the success and failure of each lies; the ability and judgment to compare facts and draw logical conclusions, to be followed out with common sense. As our professor of "Christian science" and allied courses would say, "It is here that we must elucidate a little, and make a simple heteroclitical amplification, in monosyllabic terms, of the circumambiel amphiboly regarding the psychological incontrovertibleness of the psycho—physical—parallelism of the rational organism of human nature."

Along with the numerous pleasures and joys of college life there is always mingled some feeling of regret. We have passed the meridian of our college career, and as we approach the future we naturally recall in our more thoughtful moods many pleasant and fond reminiscences of the past. We have always been a law-abiding organization, and the discipline body will no doubt hold us up as a fitting model for all future classes. The best of good feelings has always prevailed among the members of the class, and it is with some reluctance that we review the four years which have passed and await the future, when old associates, though they must be parted, and perhaps forever, will never be forgotten. Then to thee, members of the Class of 1910,

may the world's richest blessings come, and you in return may reflect much credit upon your alma mater. May we ever follow the straight path she has taught us, and holding up our hand say, "Thou hast done thy work well."

WILLIAM HORRACE BRADLEY, Historian.

THE BEST RESULTS IN MEDICINE.

BY D. DE LA PAZ, '10.

We students—perhaps I am better qualified to say we medical students—often begin our work aimlessly. We meet difficulties day after day, not as one may think we have the misfortune of being mentally asthenic or easy-going creatures, but because we had made only an unsystematic start. Partly for this reason we miss the enjoyment the study of medical science affords, and find it fatiguing to reach our objective goal. Dr. Osler says that we can take the greatest possible advantage of our capacities with the least possible strain by cultivating system. How many of us cultivate it? How many of us, for example, read the introduction or the general considerations of our text-books? How many of us had a definite idea of, or tried to find out the meaning or object of, physiology, pathology or therapeutics when we had our first lesson in these subjects? These inquiries are some of the essentials to a basic start, and, indeed, we must not begin and proceed like a blind man.

We are also inclined to have a merely receptive and retentive mind, since we attempt very little to reason and to learn the significance of facts we glean daily in school. We are highly satisfied if we are able to repeat them in the recitation rooms, though we are at a loss in applying them. They are not ours, and "pass before our dull eye, one after the other, in long procession; but pass without effect, awakening nothing." Perhaps an illustration may help to elucidate the the point I wish to make. Knowing that fat floats on the water, a student while centrifugalizing a bacteriuric urine asks, "Since the bacteria do not go with the sediment, the

fact indicates that, like fat, their specific gravity is lighter than water; so may it not be possible that their composition is mostly fat?" The hypothesis may not be entirely faultless to a critical scholar, and I merely choose the illustration, as he (the student) furnishes the scientific mind; that is, the mind that thinks, inquires, reasons, creates, and therefore arrives at a conclusion on a problem even so delicate as this with commonplace knowledge. In my private opinion I believe that the peculiarities and other qualities of one's mind, whatever they be, are all attainments. There is not such a thing as genius; it does not exist. The so-called "man of genius" is the same man that has developed "a sensitive mind, ready to vibrate to nature's touches." We should, and let us, imitate the man of genius, and save us of unpleasant strain.

The scientific mind is of equal practical value to the experimentalist as well as to the so-called "practical physician." The latter in practice is not bothered in treating diseases, as their treatments are easily accessible in standard text-books, where they are extensively discussed and so elaborately treated that he can make no improvement. But when it comes to making diagnoses he is, in most instances, helplessly puzzled and apt to commit grave and unpardonable (medical) sins. Diagnosis is synthetic. It is putting together, or building it up, as it were, from the symptoms and other facts about the disease in question. And it is he who is the best architect that can frame correct diagnoses.

In conclusion I wish I could sufficiently emphasize the important lesson of cultivating systematic habit, habit of thinking, habit of inquiring, habit of reasoning and alert imagination in seeking the truth. The best results in medicine will always come from those who have acquired these qualities, and none of us, therefore, can afford to dispense with them.

MORALITY IN MEDICAL PRACTICE.

An unprincipled man is one who regulates his conduct by his whims, his passions, his interests, without regard to the higher law of morality, of right and wrong, to which all human beings are subject. Even the State must respect the rights of the least of its members. To deny this is to proclaim that might is right, or that there is no such thing as right and wrong; it is anarchy, it is barbarism.

Now, if there is a class of men who ought chiefly to respect this higher law, and make it the guiding star of their lives, it is the medical profession. To their keeping are intrusted the dearest rights of man upon earth: they are to promote the welfare of his animal structure, to guard his very life, foster the vigor of his youth, cherish the physical and mental, aye and the moral powers of his manhood, sustain his declining strength, restore his shattered health, preserve the integrity of his aging faculties, and throughout his whole career supply those conditions without which both enjoyment and utility of life would be impossible.

Now medical men need to be more conscientious in regard to the disctates of the higher law than any other class of persons, the clergy alone excepted. They need this not only for their own good, but also for the good of their patients and of the community at large. For with no other men does the performance of duty depend more on personal integrity. The doctor's conduct is less open to observation than that of other professions. The lawyer may have many temptations to act unjustly; but other lawyers are ever watching him, and the courts of justice are at hand to check his evil practices. As to the judge, he is to pronounce his decisions in public and give reasons for his ruling. The politician is jealously watched by his political opponents. But the physician, on very many occasions, can be morally sure that his conduct will remain hidden from the public eye. Such is the nature of his ministrations, such, too, is the confidence reposed in his integrity that he is and must be implicitly trusted in matters in which, if he is unworthy of

his vocation, he may be guilty of the most outrageous wrong. Unfortunately many doctors are often thus guilty.

For this reason I seize with gladness this proffered opportunity of strengthening the honest character of medical students, because their own and the common good are deeply interested in the matter. Out on any one who would attempt to lower their high ideals and lofty aspirations, and to weaken their conviction of the binding power of the higher law and of their responsibility to the Supreme Judge. Call this philosophy, call it common sense, call it religion, call it social necessity—it is all these united; he who opposes this sense of duty is a moral monster and an enemy to mankind.

Now one of the most solemn obligations of this higher law imposed on all men is respect for human life; for doctors in particular this is a most sacred duty, since they exist professedly for the protection of human life. They must labor assiduously to preserve the life of hnman beings in all their ministrations, of all men and women and children committed to their care, of rich and poor alike, of old and young, as well the life of the unborn child as of the gray-haired sire. All civilized nations have ever been convinced of this duty; and when it is ignored at any time or in any land, we point to it as one of the grossest marks of barbarism; such was the offering of infants to Moloch in ancient times, such is the destruction of infants in China today, etc.

If any nation must and does stand by this principle of equal right to life on the part of all human beings, it is certainly the American people; for we have put it as the foundation stone to our independence. There is more wisdom than superficial thinkers imagine in the preamble to our Declaration of Independence, which reads thus: "We hold these truths as self evident that all men are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty and the pursuit of happiness."

These rights are justly called inalienable, by which

term is meant that no private person can justly deprive any human being of life or liberty or the pursuit of happiness, and that even the State cannot do so except when these rights have been forfeited by crimes, and then so far only as it is necessary for the common good. Even the State has not the right to put any innocent person, say a pest-stricken patient, to death, under any circumstances; for it is instituted to protect, not to destroy, the rights of individuals as well as of the community.

I hope no medical student or practising physician or professor is senseless enough to imagine that the degree of M. D. endows him with the right of life and death, that it empowers him to determine what human life shall be spared and what other sacrificed. Even the chief justice of the United States does not make so monstrous a claim.

I have read, but I cannot vouch for its truth, that when the wife of the first Napoleon was in difficult labor, and the doctors informed his majesty that it might be necessary to sacrifice the life of the child so as to save the mother, he ordered them rather to sacrifice the mother so as to save the child—he could easily get another wife, but he was not so sure of an heir. But, though he was an emperor, he was forbidden by the higher law to order the killing of either mother or child. One is indignant to think that any doctor or any number of doctors should presume to perpetrate the crime.

The right of life and death belongs to the Creator alone, and to the state in so far only as God has delegated it to the State; and He has not delegated to the State the right of ever deliberately taking away an innocent life. If any one pretends he or she has the right to do so by embryotomy or abortion, let him first prove his claim, for such presumption cannot be taken for granted; the State cannot give a right which it does not itself possess.

Would any one foolishly plead that reason approves of killing an unjust aggressor? Is then the innocent babe an unjust aggressor? Its position may be dangerous to the

mother, but who put it in that position? The child is innocent of it; the father and mother are the causes of the situation; or let us say the laws of nature have brought it about; that is the Creator, who has made nature, wills it so, and we have no right to rebel against His will and violate His law, "Thou shalt not kill." He said to Noe: "Everything that moveth and liveth shall be meat for you; even as the green herbs have I delivered them to you . . . at the hand of every man and of his brother I will require the life of man . . . for man was made to the image of God."

But is it not a good thing to save the mother? Certainly it is; but moral evil must never be done that good may come of it. That would be acting on the false principle that the end justifies the means. That odious maxim is laid to the charge of the Catholics and in particular of the Jesuits; but these do not teach it or practice it, it is their enemies who do so. These would kill an innocent child, which is murder, to save the mother by forbidden means.

The practice of cranitomy on a living child is condemned by all the present leaders of thought in the medical profession, and continued only by the unprincipled and the unlearned. On August 1, 1893, the British Medical Association, one of the most authoritative medical bodies in the world, at its sixty-first annual meeting, held at Newcastle-upon-Tyne, discussed that question to arrive at a definite settlement. Dr. James Murphy, at the section of obstetric medicine and gynecology, made the presidential address, in which he said: "I say it deliberately and with whatever authority I possess, and I urge it with all the force I can master, that we are not now justified in destroying a living child; and while there may be some things I look back upon with pleasure in my professional career, that which gives me the greatest satisfaction is that I have never done a cranitomy on a living child."—(British Medical Journal, Aug. 26, 1893.)

The principles I have explained in this paper condemn any wilful murder, whether by cranitomy or abortion, and wilful destruction of a living child in the womb. C. C.

THE PLEXUS.

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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A SENIOR'S TRIBUTE TO HIS DEAN.

As I gaze on my image in the mirror and notice the silvery hair and the shoulders drooped from the cares of years, my mind wanders back to the lecture room of my Alma Mater and my medical school days, and the image of a venerable, gray-haired old man ever drifts before me, standing out in relief as an example of what I should have been, whether I am or not. But who? and where? is this old man

now. Need I ask who? No, for the memory of him will last forever, and as to his whereabouts? He has gone to join the select of our profession in the great land beyond, but he has left an immortal footprint upon the medical sands of time that will be ever honored and respected by all who knew him.

As I bring in review before my mind the known incidents in the life of this venerable old man, which have shown him in his true light of uprightness and manliness, I doff my hat in honor of the man who succeeded where others failed, and yet remained as true a man as ever breathed. The world was as wicked in his day as it is in ours, the temptations just as great, and the climb to prominence just as hard, but with set determination this man of unchangeable character passed through the trials and sorrows of almost half century of medical practice to emerge from the seething caldron of temptations, disappointments, and heart-breaking setbacks as strong and manly and probably more so than when he took the first step in his climb to fame. How sweet must have been the reminiscenses of this grand old man when he gazed back over his struggle and lifted his venerable old head with pride, and defied the world with all its vices to show him one unmanly, unprofessional act in his entire career!

And as I think of the short, fleeting years to come that will soon find me on my journey to the great beyond, I wish that my life had been like his so that I, too, might leave behind "footprints on the sands of time" that would be looked upon with pride by those who may bear my name for all time to come. But as I lack the mighty character of this man of sterling mould, I must be content to keep his life and character ever in mind as a guiding star to my actions and professional duties. And when the time comes for me to reckon with the great Judge, may it be said that I tried to follow in the footprints of the dean of my student days.

May the memory of his manliness, fairness and high-mindedness ever stand as a motto of the medical department

of the University of Illinois, for he stands alone in characteristics, this Dean Quine. P. G. R.

SOME EVILS AND THEIR CORRECTION.

After considering some of the articles that have appeared in our college PLEXUS, the writer feels that one side of college life has been completely neglected, and therefore this article on "Some Evils and Their Correction."

I believe that our excellent faculty will accept with due courtesy anything looking to the benefit of the college and make for better scholarship and efficiency among the student-body.

Let me start with the examination system as conducted at present. The examination is announced with due pomp and ceremony, the student writes his answer paper, and never sees or hears of it afterward.

I now believe that one of the most potent factors for good scholarship is thereby lost. These papers should be carefully looked over and returned, together with suggestions for improvement, thus becoming a source of great assistance.

As now conducted these examinations are looked upon as a joke, the students naturally believing that they are either never looked at, or else are marked in any old way to suit the fancy of the examiner.

A matter of even greater importanee to both student and faculty is the manner in which students are at present picked to quiz the lower classmen in such subjects for instance as physiology, anatomy, chemistry and pathology.

Some of the men are chosen on their merits, but I am firmly convinced, after careful examination, that the majority of these men are picked out without any reference whatever to the scholarship of the appointee.

There are men quizzing who, to my knowledge, have conditions in the very subjects in which they quiz, and many others whose work at best must certainly be a joke to good students. This may sound rather strong, but the writer

feels that it is a great folly to keep such a system going. To hand out a job of this character to a man because he belongs to a certain fraternity or any other reason aside from scholarship is to bring reproach upon the system and the man who attempts it.

This has been characterized as an age of graft and it behooves us as students of a great college and university to see that this is reduced to a minimum.

The College of Physicians and Surgeons is one of the finest medical colleges in this country, and surely deserves its fine reputation, but it is high time that we get on the right track, before we are honey-combed with graft and fall a prey to the smoothness and deceit of modern fashion.

I believe that whenever there is a vacancy in any position, it should be filled by competitive examination after due notice has been given. This system has been tried out in public life, and bears the endorsement of such men as Colonel Roosevelt and Governor Hughes.

There are certain men quizzing in the Junior class who ought to be asked to resign. To instill into the mind of the student wrong ideas is a bad thing; he not only has still the right thing to learn but he must unlearn what is wrong.

On the whole our college puts out a fine course, and our professors are both gentlemen and men of rare ability, but surely this is no more than they should be, and all who do not come up to this standard should be dismissed.

The man who cannot keep order in his classroom, who is not up-to-date, who holds his job through stock or pull, and not because of special ability, should never be retained as an instructor. The root of rough-house, inattention, poor scholarship and quack physicians can be traced directly to the door of the poor instructor. Let us rather put a Dr. Quine or a Supt. Browne in every classroom, a man instead of a favorite at the head of each section, and we can land twenty-three men in the county hospital as easy as Rush. No school has a premium on good students, and no school should put more than half the internes in Cook County Hospital year after

year. My friends, the fault lies with the system, and unless we change it we will eventually lose out.

Excellency, efficiency and honesty have always risen to the top, and merit rides at the front in all the great contests of the world. Let us fall silently into line. Let us add to the efficiency of the great medical profession, and while we may often fail, still if we cling close to this, we shall ever come closer to God and truth, to morality, decency and justice, and to those things which make for good citizenship and makes life worth the living. D.

SCHOOL NOTES.

DR. FANTUS REPRESENTS P. & S.

Professor Fantus has attended the Pharmacopœial convention held in Washington, D. C., May 10 to 14, as a delegate from the College of Physicians and Surgeons. This convention of representative physicians and pharmacists of our country has been called for the purpose of inaugurating the ninth decennial revision of the United States Pharmacopœia. The business of the convention consists in formulating principles that are to govern the revision and in nominating the revision committee, upon which the actual work of the revision falls.

Superintendent W. H. Browne announced on Saturday, May 7, the appointments made by Dr. D. A. K. Steele to the various positions on the Senior and Junior House Staffs. The services begin on June 9, and are for one year. For positions on the Senior house staff there was but little competion, but many applications were received for the Junior staff. The following were selected:

Seniors—F. S. Wilson, House Surgeon; L. D. Barding, 1st Ass't. House Surgeon; S. M. Blunk, 2nd Ass't. House Surgeon; W. C. Huyser, Pathologist; C. E. Boone, Anesthetist; H. M. Wilson, Historian.

Juniors—H. W. Malty, House Surgeon; C. O. Sheperd, 1st Ass't. House Surgeon; C. W. Stigman, 2nd Ass't House Surgeon; O. S. Olson, Pathologist; G. Loewe, Anesthetist; E. R. Butterfield, Historian.

SENIOR NOTES.

"THE DOCTOR'S WIFE."

Through the kindness of Dr. William E. Quine, the members of the class of 1910 have been presented with copies of his famous after-dinner speech entitled, "The Doctor's Wife," which is highly appreciated by us all.

Dr. Quine is admired and loved by all, for he stands out

as a model to all men both in character and scientific knowledge. This tribute to his loved ones presents the character and manhood of this venerable old man in its truest light and may we all keep him ever in mind as a guiding star and model of our profession.

O. G. R.

A few classical commotions:

No. 1. Advent of the pink summer girl from the Wisconsin metropolis.

No. 2. Enter ye Longman from N. U.

No. 3. The ponying lecturer.

A languid senior was caught, gazing preoccupiedly at the picture of the class of 1909 and counting the buttons on his coat thus, "to be"—"not to be" but the listener did not hear the finish for the last button of his coat was missing, Let us hope the missing button was labeled "not to be."

Wnen Gabrial (in the form of the Supt.) blows his horn and judgment shall be past, Ye Gods, what celebrating there will be and also what gnashing of teeth. Let us hope our teeth will not need filling after the judgment.

Question:—"Where's the quartette?"

Answer:—"Choked to death with fear."

If Æsop lived to day he would run and hide for shame when compared with some of the dreaming castle builders of 1910.

Advice:—Study the treatment of shock very thoroughly for you may have a chance to apply your knowledge of said subject after May 28.

The motto of some of the 1910 quiz class adopted for next year:

Off again
Home again;
Back again;
Finnigan.

SORORITY CONVENTION.

The Delta Chapter of Alpha Epsilon Iota Sorority has announced that the annual National Convention will be held at St. Louis, Mo., on June 17 and 18, during the session of the American Medical Association, which meets there. The National Sorority is composed of fourteen chapters, all of which will be represented. Delta Chapter, which is connected with the College of Physicians and Surgeons, will have a delegation.

Dr. Caldwell, graduate Bennett Medical College, 1904, is the present interne at Dr. Barron's Dispensary.

Dr. Wheeler Bennett, P. & S., 1909, began at Dr. Yarros' dispensary on May 1st, Dr. Cora Kipp, also of the Class of 1909, resigning. Dr. Kipp intends to leave for India during the summer to enter upon her duties as a missionary.

E. W. White, at present athletic director at Hull House, has made arrangements with the Illinois Athletic Club to become their athletic director, beginning service on June 1, 1910.

The students on maternity work are: Athon and White, Seniors; Kistinger, Fauts and Jackman, Juniors.

N. B.: One of the latest additions to medicine is Dr. Law's monograph on the "Differential Diagnosis of the Spermatic Cord and Round Ligament in the Female."

Names of the members of the Senior Class were wanted in the office, so that no mistakes would be made on the diplomas.

Three of the students of the graduating class expect to leave for the Far East in less than a month. Foranda, Reyes and Tolentins have planned to leave Chicago on June 15 for Seattle, Wash. Then leaving Seattle on the S. S. Minnesota, via Vancouver, B. C., for Yokohama and other ports of Japan, Shanghai and Hong Kong and other ports of China, they expect to arrive at Manila, P. I., on July 18,

1910. Here they will enter the government service, expecting to spend some time in the large Philippine general hospital.

Daniel De la Paz expects to do special work in bacteriology during the coming year at the Boston School of Technology.

R. W. McNealy has just completed a short interneship in the City Isolation Hospital. Mac says he was "quite busy," but forgot to state in what line.

Dr. Bertha Van Hoosen, Professor of Clinical Gynecology, will return from her year's vacation in Europe on July 1st. While abroad Dr. Van Hoosen has visited clinics of Europe.

Dr. Herman Spaulding, Chief Medical Inspector of the Chicago Health Department, gave two illustrated lectures on small-pox, showing over one hundred slides at different periods of the disease. After his lecture he vaccinated twenty five members of the Senior Class, and it was a grand sight to see the men, headed by Leahy, lined up coatless and vestless, and with their sleeves rolled up to the left shoulder. Of course, Leahy would have made a better leader, and also a better impression, if he had instructed everyone to roll up their right sleeve preparatory to a fight; but Tim considered the fact that there were ladies present, and decided not to not to show his pugilistic qualities.

Mr. Clegg, after trying to remove adenoids with a uterine currette, decided that it was a case of being ——.

W. L. Herick, J. M. Kara and J. M. Vitullo have taken interneships at the Columbus Hospital.

L. G. Sykes, in a competitive examination for interneship in the Milwaukee (Wis.) County Hospital, made second place. He was the only P. & S. man who tried for a place, although there were many competitors from other colleges.

SOPHOMORE NOTES.

Who knows the pathology of bile rocks?

Dr. White: "Where is the organ of Corti?"
O. I. Green: "It lies at the base of the cortical fillet."

Aldes is waxing fat since he has perfected his "cod liver oil sandwich."

Currer: "Would one who has attended medical school for four years have any trouble making long drives at night?"
Joe Mershon: "Yes, we never go out at night in the the city." Truthful Joe!

All things come to him who waits. So don't fret, Beltzig, you'll get yours, all right.

"What is an idiopathic syncrasy?"
Hazlett: "It is an oddity in the pathology of an abnormal lesion."

Science versus Sentiment: During a dark room optical demonstration a few days ago we witnessed a fair example of co-education at close range. Doctor finished a very successful demonstration of Purkinje images in the eye, and then left two of the young ladies to carry on the demonstration for themselves. Of course, at this stage of the proceedings Mr. Stein and Mr. Jewell felt themselves called on to offer assistance. The result of their observations sounded something like this: "Oh, you eyes!" "Mr. Stein, I think you're horrid!" "I see a Purkinje figure." "No, Mr. Jewell, ysu see a hair ribbon." "Keep your eyes still, Mr. Stein." "Don't look at me; look at the wall; quit winking." "Oh, you sha-a-a-ky eyes!" We scarcely blame the aforementioned gentlemen for failure to see the Purkinje images. We all know there's an indefinable something that overshadows all the optical phenomena of a dozen physiologies when a fellow like Jewell or Stein looks into such eyes at such close range.

FRESHMAN NOTES.

While "your uncle" (Dr. White) was raking in his cool hundred per day in Peoria, his freshmen in Chicago took pains to show their love, respect, and admiration for one assistant in anatomy who, they felt had dealt unfairly with them, by lynching several of their number who attended the gentleman's lecture. Judging from the report of the trial in Peoria, "your uncle" evidently "handed it" to the prosecution. One imaginative Freshman has drawn a cartoon of "your uncle" in the act of spitting into the State Attorney's eye. His faithful students adopted much the same attitude toward their quiz master, and thereby won not only the hearty approval but also the respect of the upper classmen. The class bears no malice toward the gentleman. He can rely upon their loyal support provided he treats them fairly.

Dr. O. Fischer, the "bug man" who emerged from the cook room in January to take charge of the bacteriology laboratory together with Dr. Horstmann the "spring chicken" man were guests of the class at a ball game on Friday, May 7.—Editor Elect.

ALUMNI NOTES.

Dr. H. E. Schiffhauer, an alumnus of the P. & S., who is located at Manila, P. I., visited at the college during the past month. He is now the resident surgeon of the Philippine General Hospital and speaks highly of the medical work being carried on there.

Dr. Lulu Lee, '08, and Dr. Walter Lee, '09, are planning to locate in Texas.

Dr. A. L. Yocum, '09, and wife, of Chariton, Ia., are visiting in the city. Dr. Yocum is making arrangements to take a surgical course here.

Y. M. C. A. NOTES.

The new officers of the Y. M. C. A. ask the co-operation of the entire student body in keeping the parlor in such shape as it should be kept the few remaining days of this semester and all of next year. We will do our best to make the parlor a pleasant resting place and reading room, and feel we will be able to accomplish our desire with a little help from the outside.

Arrangements have been made for next year whereby any person taking a membership in the P. & S. branch can secure special rates at the West Side and Central departments. As the West Side expects to build a large addition this summer, they will be able to take care of all who wish to avail themselves of the privileges.

We invite those who remain to the summer term to make use of the room, and hope all others will have as enjoyable and profitable a summer as we expect to have.

The new officers of the Y. M. C. A. extend hearty greetings to the students of the college. The college year is drawing to an end, while the Y. M. C. A. year is just beginning, with all its opportunities. It is with great pleasure and enthusiasm that we enter into our new duties. It is our sincere desire and purpose to make the year 1910-11 the greatest in the history of the association. This, however, can only be accomplished by the united co-operation of the officers and the student body. The officers are all busy men, but you will find them always willing to do their part. We urge upon the students to give as much aid as possible in carrying on the work. Many things are being planned for next year. Full details will be given next fall.

To the Seniors, who will be leaving us soon, we say farewell. May you have great success in your chosen field, and may you never fail to line up to your high calling. Trusting that all may have a good rest, and may be permitted to return for a good year's work, we say farewell.

OFFICERS OF THE Y. M. C. A.

THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

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THE SERUM DIAGNOSIS OF SYPHILIS.

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During the past semi-decade syphilis has been the subject of much attention; in fact, there is no disease that has received as much study, or on which the experimental work has been as extensive, as in the case of syphilis.

One of the results of the recent investigations was the discovery of the Wassermann reaction, and this discovery has opened up so many lines of thought for investigation that the subject of syphilis must of necessity be largely rewritten.

With the possible exception of tuberculosis, syphilis is the most chronic disease physicians are called on to treat. It is sad but true that there is probably no disease the treatment of which, while so important, is so carelessly carried out or neglected, not only by the patient, but by the physician.

This is due to three things:

1. To the fact that the etiologic agent, the Spirochætæ Pallida, has the ability to remain dormant in the host for long periods of time.

2. To the great difficulty of recognizing its protean manifestations.

3. To the illogical and antiquated ideas of the treatment of the disease.

Anything that will assist us to overcome these facts will not only be a boon to the syphilitic patient, but will also be of great sociologic importance.

Our ideas about syphilis have undergone some wonderful transformations since Schaudinn discovered the casual agent of the disease. A direct result of this discovery was that of Wassermann, of the method of serum diagnosis which has assumed an importance beyond that of any other biologic test, and which has hardly begun to be appreciated in America.

The Wassermann reaction is an outgrowth of Ehrlich's side-chain theory, and the history of its gradual evolution is interesting as showing how seemingly abstract scientific facts may be utilized for great practical purposes.

In 1901 Bordet and Gengou, working in Metschinkoff's laboratory, discovered that a suspension of bacteria, when mixed with the inactivated serum of an animal previously made immune to that bacterium, would bind complement.

Gengou later found that animals injected with albumins from a different species of animal developed something in their blood which counteracted the foreign albumins; that is, these injected animals developed anti-bodies to the foreign albumin—in other words, they became immune to it. Gengou showed that when a solution of an albumin was mixed with the serum of an animal immune to that form of albumin the anti-bodies of the immune serum united with the foreign albumin (antigen) and bound complement. This was shown to occur with chicken, horse, dog and other albumins, and with milk.

Up to this time the method had only been used to demonstrate the presence of anti-bodies. Neisser and Sachs, working in Ehrlich's Institute, reversed the technic and used the same method to demonstrate antigen. It now becomes possible to tell from what species of animal a given albumin came. It is interesting to note in this connection that a solu-

tion of muscle from an Egyptian mummy gave a reaction with the serum of animals immune to human muscle. The reaction is used at the present time in Germany to determine the source of meat in sausages, etc.

Wasserman and Bruck made the Bordet and Gengou reaction more practical by showing that instead of using whole bacteria, it was possible to use an extract of the bacteria. This was the status of serum diagnosis at the time Schaudinn announced his discovery of the Spirochæta Pallida, and it was shown that the liver of congenital syphilitic infants contained myriads of spirochæta.

Wassermann, Neisser and Bruck, in the absence of a culture of the spirochæta, made an extract from the liver of a congenital syphilitic infant, hoping thereby to obtain an extract of the contained spirochæta. Wassermann reasoned that such an extract, when mixed with the serum of a syphilitic patient, would bind complement if the serum contained syphilitic anti-bodies. The experiment was tried with the serum of a large number of syphilitic monkeys, both in Europe and Batavia, and the anti-bodies demonstrated.

The first practical application of the discovery was made in 1906 by Wassermann and Plaut, when they demonstrated the presence of anti-bodies in the spinal fluid of 80 per cent of a series of cases of paretic dementia. Detre shortly after showed that syphilitic anti-bodies were present in the blood serum as well as the spinal fluid of paretics. These findings were confirmed by Schultze, Morgenroth and Stertz, and by Marie and Levaditi, who extended their search to cases of locomotor ataxia. Bab found anti-bodies in the milk of syphilitic mothers.

Citron now used the test in a large variety of cases, finding it negative in 156 non-syphilitics and positive in 74 per cent of patients giving a history of syphilis. These reports have been confirmed many times by numerous observers all over the world, and up to the present time a positive reaction has not been reported by a competent observer in a *normal* individual.

Before going into details as to the significance of the reaction it might be well to describe the technic. There are five factors used in the reaction:

1. *Antigen*—This term is applied to any substance which, injected into animals, gives rise to the production of anti-bodies; for example, diphtheria bacilli or toxin produces anti-toxin. Not being able to cultivate the spirochæta pallida, we use an extract of the liver of a congenital syphilitic infant. This is made by rubbing the finely divided liver in a mortar with sand and extracting for three to four days with ten times the liver volume of absolute alcohol. Wasserman originally made an extract with physiological salt solution, but it has been found that the alcoholic extract is more stable. For use this alcoholic extract is diluted with four times its volume of salt solution, and then titrated to determine the amount of diluted extract which will prevent hæmolysis with known syphilitic serum, and yet will not prevent hæmolysis without the serum.

The second factor is *Syphilitic Anti-Body.* Anti-bodies are substances formed by the body to counteract or neutralize antigen; they are of five kinds: Anti-toxins, lysines, precipitines, agglutinines and opsonines; most of these bind complement when they unite with their antigens. These anti-bodies are absolutely specific; they combine only with the antigen that gave rise to them; they are contained in the blood serum. To obtain this serum we introduce a fine needle into the median basilic or cephalic vein of the elbow and remove 5 c. c. of blood, which is allowed to clot. After the serum has separated it is pippetted off and heated to 56 c. for one-half hour to destroy the complement (inactivate).

The third factor is *Complement.* This is a substance always present in fresh blood. By means of it antigens and anti-bodies are united: it is very unstable, and is destroyed by heating at 56 c. for half an hour.

The fourth factor is *Hæmolytic Amboceptor.* This is an anti-body, a lysine. It is produced by injecting 4-10 c. c. of the washed red corpuscles of a sheep into the peritoneal

cavity of a rabbit at intervals of one or two weeks. The rabbit develops an anti-body known as hæmolytic amboceptor, which dissolves the red cells; the rabbit becomes immune to the sheep's blood. It is possible by this means to get a serum that will dissolve corpuscles in the dilution 1.5000. If we destroy the complement in this rabbit's serum by heating to 56 c., and mix some of this inactivated serum with some washed sheep's red corpuscles, no reaction will occur; but if we add some fresh guinea pig serum the amboceptor unites with and dissolves the blood corpuscles, the complement in the guinea pig's serum serving to bind them together. We use a dilution 1 c. c. of which contains twice the amount of ambocepter necessary to dissolve 1 c. c. of a 5 per cent suspension of red cells with 0·2 c. c. complement.

The fifth factor is a 5 per cent. suspension of sheep's red corpuscles which have been washed with salt solution several times to get rid of the serum, complement, etc. It is necessary that the sheep's blood be obtained fresh every two or three days, and it must be kept on ice.

Having taken up the development of the test and described the various factors, we now come to the reaction itself. If we mix in a test tube a certain amount of syphilitic liver extract (antigen) with a certain amount of inactivated serum (anti-body) from a syphilitic patient, and add some complement, the antigen and anti-body unite and bind the complement. If we now add some hæmolytic amboceptor and some sheep's corpuscles no reaction occurs, because there is no complement present, it having been used up in the first reaction.

If, however, the serum was not from a syphilitic patient, there would be no anti-body present, and the complement would be free to come down and unite the amboceptor and red cells, and the latter would be dissolved. In a positive reaction the blood cells remain undissolved; in a negative one hæmolysis occurs, and the mixture is clear red color.

As simple as this seems, it is far more complicated in practice, because it is necessary to prove the strength of

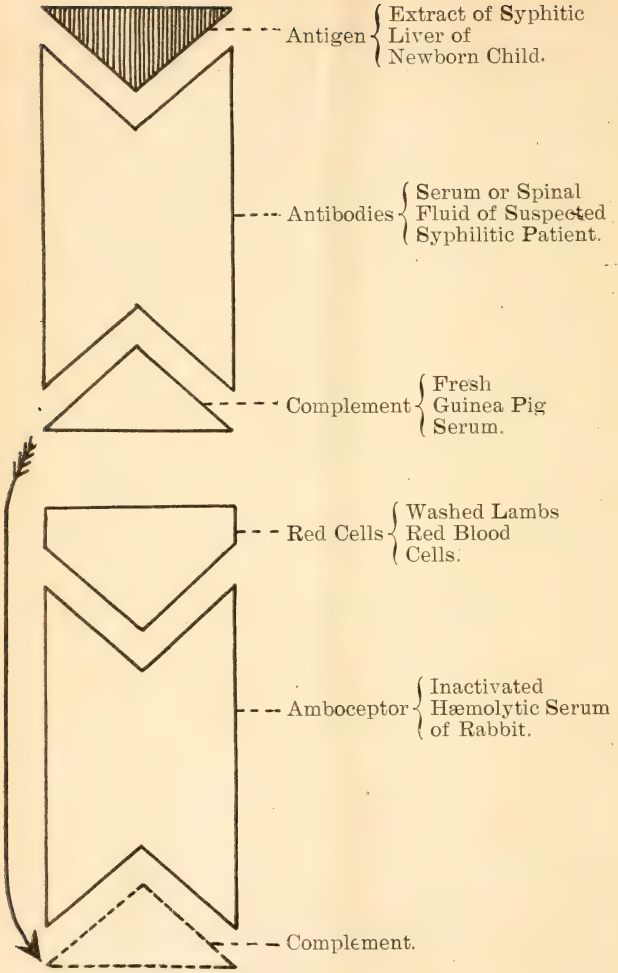
Antigen
Extract of Syphitic Liver of Newborn Child.
Antibodies
Serum or Spinal Fluid of Suspected Syphilitic Patient.
Complement
Fresh Guinea Pig Serum.
Red Cells
Washed Lambs Red Blood Cells.
Amboceptor
Inactivated Hæmolytic Serum of Rabbit.
Complement.

FIG. 1.

the various solutions; also to prove that none of the factors will produce hæmolysis alone, or prevent hæmolysis when that should occur. Next it is necessary to test the suspected serum against at least two known syphilitic and two known normal sera. These controls must be made with every test. This is a quantitative test, and we must work with exact quantities of solutions of definite strength.

After determining the strength of the various factors the technic is as follows:

Each serum to be tested requires five tubes, which are arranged in parallel vertical rows, remembering that it is always necessary to include in the series at least two known syphilitic and two known non-syphilitic sera. Into all the tubes is put 1 c. c. of normal salt solution.

Into the first row running horizontally we put 0.2 c. c. of the inactivated serum, the necessary amount of liver extract (antigen) and 0.1 c. c. of complement.

In the second row is put the same quantity of antigen and complement and twice the quantity of the serum.

In the third row is put 0.2 c. c. of serum and 0.1 c. c. of complement; (no antigen).

In the fourth row put 0.2 c. c. of serum; (no antigen or complement).

All the tubes are shaken well and put into the incubator at 37 c. for an hour to allow any reaction to occur. They are then removed, and to each tube is added 1 c. c. of a 5 per cent suspension of red cells and 1 c. c. of amboceptor of the titre described above.

The tubes are now put in the incubator again, and examined at intervals of fifteen minutes until the reactions are complete.

In the tubes in the first row containing syphilitic serum the red cells will not be dissolved (a positive reaction) because the complement has been used up in the union of the antigen and anti-bodies. The tubes containing non-syphilitic sera will show hæmolysis (negative reaction), because there

were no anti-bodies present, and the complement is free to unite the amboceptor and red cells.

The tubes in the second row will show the same result, except possibly in individual cases when the increased amount of anti-bodies gives a stronger reaction than in the first row.

The tubes in the third row should all show complete hæmolysis, because there is no antigen present, and the serum alone should not bind complement. If any tube shows absence of hæmolysis, it shows that the serum in that tube will bind complement alone. This may be due to the fact that it was inactivated at too high a temperature, or it may be due to a peculiarity of the serum; in which case the test should be repeated with diminishing amounts of serum.

The tubes in the fourth row should show no sign of hæmolysis, because there has been no complement added, and that normally present in the patient's arm should have been inactivated.

Such is the technic of this important reaction. As you see, it is rather complicated, and it would be indeed strange if there had been no attempts to simplify it; in fact, there have been several. Marie and Levaditi found that at times extracts of normal livers would act as antigen. Weil and Braun used extracts of sarcomata, and it has been found that various organs of men and animals would serve as antigen, but none of them were reliable, the most reliable being an extract of guinea pig heart, as advocated by Landsteiner and Muller.

Now the question arose, What is this antigen? Since it is present in normal organs of men and animals, it can not be an extract of spirochæta. It was known to be soluble in both alcohol and water; therefore Wasserman thought it must be a fat-like body, a lipoid. Porges, studying the subject, found that lecithin would act as antigen. Lovaditi found that the salts of the biliary acids; Altmann and Sachs that sodium oleate; Fleischmann that cholestrim—could all be used as antigen. However, all agreed that nothing was nearly as reliable as the syphilitic liver extract.

The above procedure may be more clearly seen in the accompanying diagram:

Serum No. 1. Syphilitic	No. 2. Normal	No. 3. Unknown	No. 4. Syphilitic	No. 5. Normal
Antigen Serum Comple-ment.	Antigen Serum Comple-ment.	Antigen Serum Comple-ment.	Antigen Serum Comple-ment.	Antigen Serum Comple-ment.
Use two times the amount of Serum.				
Antigen Serum 2x Comple-ment.	Antigen Serum 2x Comple-ment.	Antigen Serum 2x Comple-ment.	Antigen Serum 2x Comple-ment.	Antigen Serum 2x Comple-ment.
Shows whether Serum has Anti-comple-mentary Properties.				
Serum Comple-ment.	Serum Comple-ment.	Serum Comple-ment.	Serum Comple-ment.	Serum Comple-ment.
Shows whether all Comple-ment has been Destroyed.				
Serum	Serum	Serum	Serum	Serum

Incubate for one hour then add Amboceptor and Red Cells.

Dark squares indicate hæmolysis.
Hæmolysis—negative reaction.
No hæmolysis—positive reaction.

Now the question arose—since the syphilitic antigen is not an extract of spirochtæa, the substance in syphilitic serum that reacts with the antigen can not be an anti-body to spirochætal antigen. All we can say at the present time is that the Wassermann reaction depends on the fact that syphilis causes an increased production of some substance which occurs normally in the organs of men and animals, and the body reacts to this increase by the production of an anti-body to that substance.

In spite of the fact that the hypothesis on which the Wassermann reaction was founded has been shown to be false, it would be very wrong to assume that the test had lost any of its value. For whereas Wassermann in his first communication only found it positive in 90 per cent. of the cases, the many reports since then have far exceeded that percentage. Since it has been shown that the reaction is not specific for the spirochæta, one naturally questions whether it is specific for the disease. Does not a positive Wassermann reaction occur in other diseases beside syphilis?

A positive reaction is found in Trypanosomiasis, Tubercular leprosy, Frambœsia and Dourine (a venereal disease of animals). Some observers have reported positive reactions in a certain percentage of cases of scarlet fever, but later observers have shown that these results were due to a faulty antigen. And it is now well established that, with the exception of the diseases above mentioned, a positive Wassermann reaction is only found in syphilis.

(To be continued.)

Dr. Vance May, of Cornettsville, Ind., in treating a case of saccharine diabetes of long standing, in which he found a good deal of albumen present, as a result of an old gonorrheal inflammation, says the use of a few bottles of sanmetto so cleared up the urine that he could find no strings of mucus, nor the least trace of albumen by heat or nitric acid test. It also afforded a world of relief to his patient, who had been suffering for years with his bladder.

TUBERCULOUS PERITONITIS.

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[By permission of the Chicago Medical Recorder.]

Aetiology and Pathogenesis.—Tuberculous peritonitis exists far more frequently as a secondary than as a primary infection. Borscke found only two case which could be properly classified as primary lesions, among 226 cases, at the Breslau Pathological Institute. Its incedence may be estimated from the fact that Grawitz found the peritoneum tuberculosis 284 times in 13,422 autopsies—about 2 per cent. of cases.

Gœschel, in the Wurnberger Hospital, found the lungs involved 9 times out of 19 cases. In the same series the intestine was involved three times, as follows: (1) tuberculous appendicitis, (2) tuberculosis of the cecum, (3) intestinal perforation and abscess and fistula formation.

The lung is attacked primarily in by far the largest proportion of cases (Borscha 200 times in 226 cases); then involvement of the serous membranes, pleura, pericardium, joints, intestines, lymph glands and bones. In women tuberculosis of the tubes is frequently the primary lesion in the peritoneum, and is said to cause one-third to one-half of the cases (Edwards). The tubercle bacillus reaches the peritoneum via the blood stream (Weigert), through the lymph channels, or finally through the direct extension from the abdominal organs, as the intestines, mesenteric glands or female genitalia.

Age.—Statistics agree that the largest proportion of cases occur between the ages of 10 and 40. However, Rotch, in the Children's Hospital of Boston, found tuberculosis of the peritoneum rare in the early months of life, the youngest case being 14 months old, while between the ages of 2 and 4 the disease was comparatively frequent. Although not common in the later years of life, it may occur. The writer saw one case in a man of 60, following a fall upon the abdomen,

diagnosed clinically as sarcoma, which proved at operation to be caseous and ulcerative tuberculosis of the peritoneum, with great thickening of the peritoneum and omentum, with tumor formation.

Infection with the bovine bacillus of tuberculosis is far more common in children than is infection with the bacillus of the human type, because the atrium of infection is through the gastrointestinal tract in the early years of life, in contradistinction to infection via the respiratory tract in adults.

Sex.—Most authors concur in the opinion that the disease is more common in women (Nothnagel 90 per cent., Koenig 78 per cent.), possibly because of the frequent tuberculous involvement of the female genitalia; however, tuberculous peritonitis may result from tuberculous disease of the epididymus, seminal vesicles and bladder in man. Kelly believes that pregnancy, and especially the puerperium, predispose.

Race.—Negroes are not only more frequently infected than white, but the disease seems to attack them with greater severity. Possibly it is analogous to the well-known virulence of syphilis among the colored race.

Trauma.—This plays an important role in the etiology of tuberculous peritonitis, as it does in tuberculosis elsewhere. Severe injuries or penetrating wounds are less important as etiological factors than a fall or blow on the abdomen. The injury may light up a latent focus in the mesenteric or retroperitoneal glands, in the omentum, or in the intestine itself, or by traumatizing the tissues, determines the localization of a hematogenous infection. Solution of continuity of the intestinal tissue is unnecessary for the transmission of tuberculous infection from the lumen of the intestine to the perioneum. An analogous condition is found in the suppurating condition about an unruptured appendix. This constitutes the "uberwanderung" of the Germans (Kœrte).

Luecke says primary traumatic tuberculous peritonitis has not been observed, and cites a case of a 12-year old boy falling upon the ice and striking his abdomen over the prostrate figure of another boy. This was followed by gradu-

ally increasing abdominal pain and tenderness, and after fifteen days by vomiting and occlusion of the bowels. Operation on the fifteenth day showed diffuse miliary tuberculosis of the entire peritoneal surface. Death in collapse. Autopsy showed large caseous mesenteric glands; lungs free except for a few tubercles on the border of right upper lobe.

Cirrhosis of the Liver.—Unlike the rarity of tuberculous infections of the lungs in pulmonary stasis, tuberculous peritonitis is frequently observed in connection with hepatic cirrhosis and portal stasis. However, the degree of ascitic accumulation in the abdominal cavity is not proportionate to the extent of hepatic cirrhosis, and may be present in large amount when the liver is normal.

Hernia.—Tuberculosis of the hernial sac has been reported.

Pathology.—Anatomically the peritoneal sac is the largest cavity in the body; but unlike other natural serous cavities, in the female, it possesses a communication with the exterior through the uterus and tubes when in their normal state. In its pelvic portion, the peritoneum is endowed with unusual power to withstand infection, while in its diaphragmatic portion its resistance to infection is slight because of the normal rapidity of absorption from this area and because in man the tendency is for fluids to gravitate into the pelvis.

Von Recklinghausen has shown that fat globules and finally pulverized particles are rapidly absorbed from the peritoneal cavity gaining access to the smaller lymph channels through the minute stomata between the endothelial cells of the upper diaphragm. The rapidity of absorption of salt solution from the peritoneal cavity after laparotomy is a common observation, as is also the rapid toxæmia following the infective process of the abdominal viscera.

The normal movability of the intestinal coils, conferred by their mesenteric attachments favors the rapid spread of an intraperitoneal infection, yet the natural spaces and depressions between the peritoneal viscera tend to localize

and encapsulate the infective flora. The peristaltic paralysis which accompanies peritoneal infection favors the localization of the process, assisted frequently by inflammatory adhesions on the part of the great omentum, intestines and mesentery.

Several different forms of tuberculous peritonitis may be recognized, however, as they may be different stages of the same process, and merge into each other, a sharp differentiation is impossible.

Serous Form.—In this type the visceral and parietal peritoneum is thickly studded with miliary tubercles, which are commonly more numerous in the lower abdomen and in the ilio-cecal region. The omentum is thickened and frequently rolled, containing in its folds discrete or confluent tubercles, and frequently becoming attached by adhesions to the neighboring viscera. Ascites is usually present, and may be simple or hemorrhagic. The anatomy and physiology of the great omentum are most interesting in connection with the mechanics of the production of and absorption of ascites The omentum is a large reduplication of the peritoneal membrane, containing fine connective tissue and more or less fat, and supporting a vascular network greatly in excess of its apparent needs and physiological purposes. This vascular network is composed of fine capillaries, which led Malpighi to suggest that the serum might be transuded through their walls, thus producing an ascites. It is also easy to conceive how the omentum could assist in the resorbtion of ascitic accumulations by adhesions to surrounding structures and the production of a collateral circulation.

With the development of miliary tubercles there is usually a swelling of the mesenteric glands. This may be a simple enlargement of the glands, or these may ulcerate and fuse, causing a mechanical ileus, as the following case illustrates: Laparotomy was performed upon a child of 3 years for intesiinal obstruction, with the clinical manifestations of ileus and a tender mass in the upper left quadrant of the abdomen. The operation disclosed an intussusception of the

upper ileum, taken its origin from a point where a broken-down mesenteric gland, a little smaller than a hen's egg and filled with pus, caused a local paralysis of the gut. The intussusception, which was of eighteen hours' duration, was reduced without resection and the abdomen closed without drainage. The child made a quick clinical recovery, and the bowels have moved regularly since. The broken-down gland was not removed.

Edwards reports three cases of acute tuberculous peritonitis following delivery which resembled puerperal infection. The ascitic fluid becomes purulent when a secoedary infection occurs through ulceration of the walls of abdominal viscera, or symbiosis with the gonococcus in pus tubes. This constitutes an empyema of the peritoneum.

Chronic or Fibrous.—This form is characterized by adhesions, and by larger tuberculous tumors in the peritoneum, omentum and mesentery, and by a thickening and shrinking of the peritoneal folds, causing chronic intestinal obstruction. The omentum is greatly thickened and retracted, and may rise to the middle line or laterally. It contains tuberculous masses undergoing caseation and ulceration, or when the process tends to heal the formation of fibrous tissue supplants the destructive changes. In the female the fimbriated ends of the tubes may be filled with caseous material, caus ing periodic distension and relief when the tuberculous mass is extruded, and the fimbra may become adherent to the surrounding structures.

Ulcerative, Purulent.—In this condition are found ulceration and caseation of the mesenteric glands, which frequently contain thick, yellowish pus, constituting a cold abscess, ulceration of the intestinal wall with localized abscess formation and fibrinoplastic adhesions. Tuberculous involvement of the appendix is especially frequent in this form, and may occur with or without pulmonary tuberculosis, as illustrated by the following case:

Miss K., aged 34. Family and personal history negative up to two months before admission to hospital, when patient

had vague pains in abdomen, coming on at irregular intervals and having no relation to the ingestion of food. The pains gradually became more severe, and patient complained of abdominal distension and loss of strength and weight, although always able to do her own work about the house. She had no night sweats or cough, but does not know whether or not she had fever. Bowels constipated; appetite poor. Two months after initial symptoms patient was suddenly seized with a violent abdominal pain, more pronounced in the right iliac region; this was followed by nausea and vomiting. The temperature was 102, pulse 110, and palpation elicited tenderness and a mass about the size of a fist at the area of pain. A diagnosis of appendiceal abscess was made, and operation, performed at once, disclosed tuberculosis of the cecum and appendix. The appendix, which was buried in a mass of dense tissue about the cecum, was partially amputated by the tuberculous process, and was removed with great difficulty. The wound was drained, and continued to discharge for one week, when the drainage tube was removed. The wound never showed any tendency to heal, the abdomen showed signs of extension of the tuberculous process, and the patient died two months later of tuberculous peritonitis, with high angular fever, chills and sweats and great emaciation.

Waldvogel examined 17 cases of healed mesenteric tuberculosis with the following results. Inoculations of animals by material from the healed glands were negative in each case. Eight of the 17 cases could be demonstrated microscopically as healed tuberculosis.

Of 39 cases of primary intestinal and mesentric tuberculosis 17 healed; of the 22 remaining, 13 were caused by the bovine bacillus, of whom seven were fatal; 7 were caused by the human tuberculosis bacillus of whom three were fatal; and two were caused by a mixed infection of both types.

SYMPTOMS AND PHYSICAL SIGNS. SEROUS FORM.

Pain and Tenderness:—These are almost constantly

present, early, last throughout the course of the disease, cause great difficulty in the differentiation of other inflammatory abdominal affections and are caused by adhesions between the omentum, intestinal coils and abdominal parieties, by the thickening and retraction of the mesentery, by the inflammation and roughening of the peritoneal surfaces, by mechanical ileus, the result of adhesions and tumor formation; and in women by the periodic distention of the fallopian tubes, by masses of cheezy material and relief of pain when the caseous mass is extruded through their fimbriated ends (Murphy). The sudden onset of pain with nausea and vomiting, fever and tenderness over the abdomen, together with equally sudden subsidence of the symptoms, when the tubal distension is relieved by forcing out the plug of caseous material from the fimbriated end, strikingly stimulate an attack of appendicitis. The abdominal tenderness is usually diffuse; however, the hypersensitiveness is more pronounced in the lower half of the abdomen. In women vaginal examination shows great tenderness in the fornices and the cul-de-sac gives a full, doughy sensation to the fingers. The tubes are thickened and tender and the uterus may be fixed by adhesions. Rectal examination is painful and may disclose a thickening of the rectal wall.

Ascites.—This is usually a clear straw-colored or blood-stained fluid amounting from a few ounces to gallons and may be associated with meteorism. It is due to stasis and transudation through the walls of the vessels of the omentum, mesentery and portal system and may vary in amount from time to time in the same individual. It may occur with cirrhosis of the liver which tuberculous peritonitis is frequently associated. The conformity of the abdomen in tuberculous peritonitis with ascites resembles that of ovarian cyst, being more prominent in the median line with dullness in the flanks less pronounced. The dullness shifts with position. The spleen is often enlarged but palpation is difficult, clinically. Fick emphasizes the clinical importance of tumors of the spleen.

Temperature.—This is most irregular, but in the acute form is usually of remittent type. It is often accompanied by sweats. In the chronic form, fever is frequently absent or the temperature may be subnormal.

Cachexia.—Anæmia and emaciation are common, yet some cases retain a fairly healthy appearance. Bronzing of the skin without involvement of the adrenals occurs.

Meteorism.—This occurs in the acute form from peristaltic paralysis and is frequently associated with the ascites. It is due to the peritonitis and caseation and ulceration of the mesenteric glands.

Diarrhoea.—Is frequently an early and distressing feature and is septic in type. It may alternate with constipation.

CHRONIC FORM.

The clinical manifestations of this type of tuberculous peritonitis are in harmony with the slower and more conservative pathological changes on the part of the peritoneum. The thin thread-like adhesions between the intestinal coils may remain as such or may be transformed into dense fibrous bands, circumscribing irregular areas of the peritoneum and producing various sized masses which may appear solid or cystic. The peritoneum becomes thickened, indurated, and retracted, shortening the mesentery and pulling the intestinal coils to the right side. As a result of these changes, absorption of the septic products is hindered and the condition becomes a chronic inflammatory process (peritonitis deformans Klebs). The characteristic doughy sensation is encountered on palpation of the abdomen and vaginally in the cul-de-sac and fornices.

As a result of the defensive thickening and walling off process the fever is not high, but there may be slight evening temperature, anæmia and night sweats. Pain and tenderness are present, especially is the hypersensitiveness on vaginal examination marked. The cystic accumulations give the physical signs of fluid in the abdominal cavity, depending upon their size and location, and may be confused with ovarian cysts.

Intestinal stenosis may be caused by the fibrosis of the peritoneum, presenting the clinical manifestations of ileus. Leucocytosis is slight, unless secondary infection of the peritoneum occurs.

ULCERATIVE PURULENT.

The physical signs and symptoms of this form are not constant. The ulcerative process extends through the peritoneal coat into the muscular and mucus layers, causing perforation of the hollow organs and fibro-caseous changes in omentum, mesentery and female generative organs. Pain and tenderness are present, as in the other forms. The physical signs are dependent upon the underlying changes. Fever is of the hectic type, and anæmia and emaciation become pronounced. In this form perforation, with the clinical manifestations of septic peritonitis by reason of a colon bacillus infection in connection with the tuberculous lesions, may occur. The glueing together of the intestinal coils, with the production of adhesions and fistulæ, may occur and cause ileus and abscess formation. Involvement of the portal system may cause liver abscess or miliary tuberculosis.

Diagnosis.—Laparotomy performed for some other condition frequently reveals an unsuspected tuberculosis. However, the presence of a pulmonary, glandular or osseous tuberculosis, with ascites or gaseus distension of the abdomen, accompanied by abdominal pain and tenderness, and in the female tuberculosis of the Fallopian tubes, is highly suggestive. The various tuberculin tests, while they may show the presence of a tuberculosis, do not prove its location to be peritoneal.

Differential Diagnosis.—Malignant disease of the abdominal viscera may require differentiation, but the history, absence of fever and lack of response to tuberculin tests, together with the cachexia and metastatic manifestations, usually suffice. Furthermore, peritoneal tuberculosis is a disease of early life, while malignancy occurs in the declining years.

Abdominal cysts, unless infected, show no inflammatory signs, the fluid is confined and does not shift with position,

their growth is rapid and spontaneous fluctuation in the amount of fluid does not take place. Physical examination may reveal a connection with the adnexa in women and the doughy consistency of the abdominal wall is lacking.

Cirrhosis of the liver is identified by the history, the development of collateral circulation manifested clinically by an enlargement of the veins of the abdominal parietes and the production of a caput medusæ. The dome-shaped appearance of the abdomen is absent, the abdominal expanse is broader and the flanks bulge. Inflammatory signs are absent.

Appendicitis is frequently difficult or impossible to differentiate, as a tuberculosis of the appendix may be the exciting cause in the production of a like infection of the peritoneum, however, in the typical case of streptococcus, staphylococcus or colon bacillus type, the onset is more stormy, the pain precedes the temperature, the leucocytosis is more pronounced and is of the polymorphonuclear type, and the abdominal tenderness is more exaggerated.

Hirchsprungs disease (megalocolon), chronic ileus and diverticulitis may, in rare instances, cause difficulty in diagnosis, but in the former the periodic passages of enormous quantities of feces and a survey of the rectum by the proctoscope are sufficient, while in chronic ileus and diverticulitis, laparotomy may be necessary to make a diagnosis.

Treatment.—The management of tuberculosis peritonitis differs so greatly with different writers and with the same writer in connection with several forms of the affection that no definite line of treatment can be laid down for every case.

Foote (Progressive Medicine, June, '08, p. 71) says: "The good results which follow laparotomy have been attributed to a number of different causes, irritation of the peritoneum, removal of the ascitic fluid, the congestion following a laparotomy, contact with air, exposure to light, etc." Whatever the cause abdominal section remains the most effective therapeutic measure, at least in the ascitic forms of the disease.

The objects of this procedure are (1) removal of the source of infection when possible (2) the removal of the ascitic fluid and diseased organs as the tubes or appendix or a limited area of intestine; (3) and the stimulation of the fixed tissue cells of the peritoneum and its viscera and the raising of the bacteriacidal power of the blood and the fluids of the abdominal cavity.

Spencer Wells in 1862 first laparotomized a patient for tuberculous peritonitis. Koenig, in 1884, advised it as a therapeutic measue, and in 1889 compiled statistics from 131 cases; this was the first exhaustive article upon the surgical treatment of peritoneal tuberculosis. Goeschel lays down the rule that more than three years must elapse after operation before one can be sure that a cure is permanent and quotes a case of Jaffey which was observed clinically for three year after abdominal section with the clinical manifestation of healing, but which a later laparotomy showed was not in accordance with the facts, as tubercles were found upon the visceral and parietal peritoneum, demonstrating how misleading statics may be.

Wunderlich reports the results of 176 cases observed for three years after laparotomy, as follows: 23.3 per cent. of the ascitic form cured; 9.8 per cent. of the dry adhesive form cured; while only one of the ulcerative form remained well, and he had a rectal fistula. Reports of cases examined four or more years after treatment: Peritonitis exudativa, 39 patients; of 36 who were operated upon, 13 died, 21 completely cured, 2 had tumors of the adnexæ, but felt perfectly well Lung and other complications are not contra-indications to laparotomy. Peritonitis adhæsiva sicca: 11 operated on, 8 still alive; 11 not operated on, 3 still alive. Explorative laparotomy recommended. Salpingitis tuberculosa and pyosalpinx: Co-existing tuberculous peritonitis does not prevent healing, but makes the prognosis worse. Thirteen internally treated, 5 alive, all of whom have tumors of the adnexæ. Some of the expectantly treated had to be operated on later for removal of the adnexæ, and were perfectly cured.

Twenty-three were operated on, and 18 of them are cured. Three still have tumors of the adnexæ, but are not troubled by them. Some had to be operated on twice, because seemingly sound tubes became involved later and had to be removed. Ovaries should be spared, but both tubes removed. Laparotomy advised for all cases. (Baisch.)

Fick reports 27 cases of tuberculous peritonitis in children, and emphasizes among the clinical symptoms the frequency of tumors of the spleen. Nine were found cured up to 12 years after first symptoms; laparotamy was done in three cases, two of which died and one was cured.

Gelpke discourages early operations and advises the leaving of the ascitic fluid, because in his opinion it contains anti-bodies and disappears when healing occurs. The prognosis in the dry form is bad, and he adds that the more fluid the more successful the operation. Guthrie says that in the acute form the ascites must not be removed earlier than three weeks after the onset of the disease, and in the chronic form not before six weeks. According to White the ascitic fluid in the tuberculous peritonitis is poorer in opsonins than the blood serum, but after laparotomy and emptying the abdomen of fluid new opsonins go over into the diseased tissue as a result of osmotic interchange, while the opsonic index of the blood itself increases after abdominal section.

Mayo found that in the majority of the cases operated for peritoneal tuberculosis the Fallopian tubs were involved. When the tubes were normal the appendix was usually tuberculous. The ascitic form was usually associated with salpingitis while the fibro-plastic variety was most commonly found in connection with tuberculosis of the appendix. Hirschfelder suggested that the atmospheric oxygen formed an oxytuberculine which inhibited the furthur progress of the tubercle bacillus and Schmidt showed that the simple injection of oxygen into the peritoneal cavity will do likewise.

Bainbridge inserts a rubber tube surrounded by a purse-string suture before closing the abdomen. The deep and

superficial sutures are then inserted and tied and the oxygen gas liberated until moderate distension of the abdomen occurs, when the tube is withdrawn and the purestring suture tied. (Foote.)

Schultze reports seven cases cured by the removal of the ascitic fluid with a trocar and the injection of sterilized oxygen before the trocar is removed.

The conflicting reports of the medical and surgical treatment of tuberculous peritonitis may be ascribed to two conditions; first, the impossibility of knowing clinically that a given case is cured histologically in a limited period after a laparotomy, and second, because indiscrimate operative interference on all cases of peritoneal tuberculosis without regard to type of the disease and the favorable time for operation cannot give uniform results.

Treatment of the acute exudative type. As pointed out by Mayo this form most commonly occurs in connection with tuberculosis of the tubes, in which the lesion on the serous surface is secondary to a tuberculosis of the tubal mucosa, which being an epithelial structure shows no tendency to repair under any form of treatment but like a lupus tends to spread. In the absence of a secondary infection, the fimbriated ends of the tubes remain free, fullfilling the conditions for a constant and inexhaustible influx of tuberculous material into the peritoneal cavity. Simple laparotomy without the removal of the tubes in cases of this description would be useless, in contradistinction to the statement of Begouin that simple abdominal section causes a healing of tuberculous peritonitis where the adnex are involved without their removal. Removal of the ovoaries is not necessary. If the source of the tuberculous material be from a perforating tuberculous ulcer of the intestine or of the appendix or a ruptured mesenteric gland, removal of the diseased part is imperative. Suppurating mesenteric glands whose capsules remain intact should not be disturbed as in the case cited above.

Entero-enterostomy for the purpose of short-circuiting

the intestinal contents should be performed in a case where there is extensive intestinal involvement.

The surgical treatment of the fibrous adhesive type can only be based upon the mechanical indications for interference as manifested by the clinical picture of ileus.

In the caseous ulcerative type surgical intervention does not give good results. The wound of incision frequently shows no sign of repair; fecal fistulæ are established, secondary infection of the peritoneal cavity by pus-producing organisms occurs, and death from sepsis and exhaustion results in a few weeks or days. The management of this type of cases by internal medicine and general hygienic measures yields better results, while the surgical intervention should be reserved for imperative mechanical conditions.

THE EVOLUTION OF PHARMACOPŒIA.

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From time immemorial man has felt the necessities of formularies for the preparation of medicines. This is shown by the fact that the oldest existing human document, the Papyrus Ebers, dating from the year 1552 B. C., is just such a formulary. We have here the first stage in the development of pharmacopœia. All pharmacopœias had their beginning in formularies.

The first formulary that attained more general use, and thereby more nearly resembled a pharmacopœia, was contained in the writings of Galen, a Roman physician who lived A. D. 130–210. These writings governed the practice of medicine and of pharmacy for more than a thousand years So firmly established was the authority of Galen that pharmaceutic preparations came to be known as Galenic preparations, or Galenicals.

Besides the work of Galen, the "Antidotarium" of Mesue, an Arabian, who died in 1015 A. D., and the "Antidotarium

Parvum" of Nicolaus Præpositus of Salerno, who lived in the twelfth century, were the chief canons of pharmacy during the middle ages, which served as pharmacopœias or contributed to their compilation. Indeed, the last mentioned Antidotarium was made official in France by edict of King John, "the good," in 1353.

The first country in which an official pharmacopœia was published was Italy, where the art of pharmacy was most flourishing during the middle ages. It was the "Antidotarium Florentinum," first published at Florence in 1498. Other similar works now rapidly appeared in many other cities of Italy, and in many cities of France and of Germany. Perhaps the most important of these city pharmacopœias was the "Dispensatorium Pharmacopolarum" of Valerus Cordus, made official and published after his death by the city of Nuremberg in 1546. This work, which was based chiefly on the formularies previously mentioned, underwent numerous revisions and augmentations; and in the course of time it became the basis upon which most of the subsequent pharmacopœias were constructed.

It was the work of centuries before the numerous city pharmacopœias, with all the confusion that the multiplicity of formularies caused, gave way to national pharmacopœias. This is well illustrated by the history of the British Pharmacopœia, which being the immediate precursor of the United States Pharmacopœia on this continent, has for us a special interest. The first pharmacopœia in England was published by the London College of Physicians under the title "Pharmacopœia Londinensis," in 1618. This pharmacopœia was, however, not accepted by Scotland, whose first pharmacopœia was published by the Edinburgh College of Physicians in 1699. An Irish pharmacopœia was published in Dublin in 1807. It was not until 1864, after much labor and delay, due to political considerations, that a fusion of these three was accomplished under the name of "The British Pharmacopœia."

[To be concluded in next issue.]

THE PHILIPPINES IN MEDICINE.

"The Americans seem destined to bring to a mature development the seed implanted by the Spanish."—Jagor: Travels in the Philippines, 1873.

With the establishment of the College of San Jose in 1871 as the medical department of Santo Torrias University, the Philippines entered upon a new era in medicine. Up to this time Filipino physicians received their education wholly from the institutions of the mother country, or elsewhere on the Continent, and, as might have been expected, only a few could have thus been educated.

The country was in apparent tranquillity, when on January of the following year it was thrown into the throes of what is known in Philippine history as the Cavite Revolt. Then a systematic persecution of everything not directly emanating from the church or inspired by the government was begun, which ended only with the downfall of Spain. The priests[1] who dared dispute the right of the Monastic Orders[2] to administer parishes became the targets of attack, and were unjustly condemned to the gallows as being the chief conspirators of the revolt. Others high in society and official circles suffered banishment in the wilds of Marianas (Ladrones Islands). Medicine could not well flourish in a country in this state of political turmoil. Yet, notwithstanding persecution that thwarted all ambition and killed all initiativeness, "it did not hamper the flight of superior minds." Within the next few years men of ability came to the front. Rizal's[3] brilliant feats in ophthalmic surgery be-

(1) The priests who suffered death by the *garrote vil* were D. Mariano Gomez (85 years), D. Jose Burgos (30 years) and D. Jacinto Zamora (35 years).

(2) The friars were forbidden by the Council of Trent to hold parishes in the Philippiues, but owing to the scarcity of secular priests in the early days the Pope extended to them the privilege to occupy parishes temporarily.

(3) Rizal, "the greatest man the Malay race has produced," besides being a physician, was a philosopher, philologue, artist, novelist, poet, polyglot and, above all, patriot.

came known throughout the east, and patients sought him even in his solitary exile at Dapitan, Mindanaw, that they might be benefited by his skill. Bautista[4], an internist of repute, is one of the leaders of the profession in the Philippines. Calderon[5] is an obstetrician of merit, and Singian[6] a surgeon of great promise.

But it is perhaps in the kindred branches that medicine made her greatest advance. Antonio Luna[7] was a product of Pasteur's laboratory, the chemical researches of Anacleto del Rosario[8] are classics in Philippine science, and the attainments of Leon Ma. Guerrero[9] as a botanist won for him distinctions he so worthily deserved.

During the last successful revolution against Spain, gunpowder became so scarce in Aguinaldo's Army, that the discovery of Roxas, then a member of the staff of the Batangas Division, of a method to extract potassium nitrate (salt peter) in large quantities from Argemona Mexicana,

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(4) Ariston Bautista received the degree of doctor of medicine from the Central University, Madrid, Spain, in 1891. In 1899 he was a delegate to the Malosos Congress. He served as second vice president of the Philippine Islands Medical Association in 1906-7, and elected its president the following year. At present he holds the chair of Clinical Medicine in the Phillippine Medical School.

(5) Dr. Fernando Calderon is professor of obstetrics in the Philippine Medical School, and a brilliant writer on medical subjects. He held important posts during the Spanish regime.

(6) Dr. Singian holds a chair in surgery in the Philippine Medical School, and one of the best known surgeons in Manila.

(7) Antonio Luna was Doctor of Pharmacy from the University of Barcelona, Spain, and was Secretary of War in Aguinaldo's cabinet. He was the most formidable general in the Filipino army that the Americans had to contend with during the War of Independence.

(8) Anacleto del Rosario was the best chemist that the Islands has thus far produced. Prizes have been awarded him for his scientific investigations. He was director of the Municipal Laboratory of Manila during the Spanish regime.

(9) Leon Ma. Guerrero was lecturer on Medical Botany at Santo Tomas University, and later at the Liceo de Manila; a delegate to the Malolos Congress, and a representative to the first Philippine Assembly from Bulacan.

L., (Papavaraceae), Tagalog: *dilievariw*, was hailed with delight. For this distinguished service he received a special diamond set medal from the Revolutionary Government.

The influence of the medical profession was also felt in other fields of endeavor. There were representatives of the profession in the Malolos Congress and one of the seven members of the Taft Commission was a physician. There are physicians now in the Philippine Assembly and physicians were the most loyal of Aguinaldo's aids. They shared with him the vicissitudes of an unequal struggle until his capture at Palanan, Isabela de Luzon, by the intrepid Funston.

The first name in Philippine literature is undoubtedly that of Rizal, who at twenty-five aroused with his Noli-Me-Tangere the colloused conscience of an oppressed multitude. The dean of American letters, William D. Howells, in the course of a review of this book (published in English as "An Eagle Flight" and "Friars and Filipinos,") said of him: "I don't know whether it aught to be astonishing or not that a little brown man somewhere in that unhappy archipelago, should have been born with a gift so far beyond that of any or all the authors of our roaring literary succeses; but those things are strangely ordered by Providence, and no one who reads this pathetic novel can deny its immesurable superiority. The author learned his trade apparently from the modern Spanish novelists, who are very admirable teachers of simplicity and directness, with a Latin grace of their own. But he has gone beyond them in a certain sparing touch, with which he presents situation and character by mere statement of fact, without explanation or comment. It is a great novel, of which the most poignant effect is in a sense of its unimpeachable veracity."

Pardo ve Tavera, a great note of the Faculty of Medicine of the University of Paris, is a prolific writer and some of whose productions have been translated into European languages. He is a historian of ability, a linquist of merit,

an eminent legislator and a successful politician. This type of physicians, now in their prime, will pass away to give place to a new generation that will owe no other allegiance than to Minerva Medica and will have no other ambition than "to have the sacred privilege of helping his fellow-man."

The events of 1898 in the Philippines were a fulfillment of Jagor's prediction uttered a quarter of a century before, and, with the advent of Americans came religious toleration and freedom of the press, and medicine no less than politics received a new impetus in its onward course. State medicine came to a fuller development and cholera epidemics are no longer regarded as "the visitations of Providence." Smallpox has long ago lost its terrors, thanks to Jenner's epoch-making discovery. In 1803, five years after Jenner's first paper on vaccination was published and while he was still fighting for recognition in his own country, Charles IV of Spain sent a commission to vaccinate his subjects in his dominions in America and Oceania. In what was formerly known as the Plaza del Pulacio (now Plaza McKinley) there stands today a bronze statue to Charles IV, erected in 1808 by the public of the Philippines as a testimony of gratitude for the introduction of vaccination. But it was not until the present sanitary system—the system that found in Heiser its most devoted exponent—was inaugurated, that vaccination reached its highest efficiency. During the fiscal year (1907-08) something over two million people were vaccinated.

"La Gata de Leche" a woman's organization for the protection of infants is aiding materially to decrease the infant mortality which is so appalling in the tropics and where the increase in population has heretofore been characterized by "the survival of the fittest."

The plague, said to have been introduced in 1898, has never gained a foothold in the Philippines, and save in Manila, the port of entry, few cases ever did occur. Even there, the victims are mostly Chinese and the poorest Filipinos, who, through no choice of their own are compell-

ed to live in unsanitary surroundings. The systematic destruction of rats is going on all the time, and the Board of Health had even paid for rats, either dead or alive, brought to the sanitary stations. The cases are isolated in the San Lazaro Hospital for Contagious Diseases and persons who had been exposed to infections receive a prophylactic dose of plague serum and are quarantined. The dead are creamated, their personal effects burned in the public thoroughfare and houses where cases of plague have occured disinfected and quarantined. Over the street door is tacked a yellow placard with these words in big black letters: PESTE BUBONICA.

Strong, of the Government Laboratory at Manila, has devised a plague serum now used for curative and prophylactic measures. The cholera serum, though as yet not thoroughly tried, gives nevertheless promising results.

The work of Ashburn and Craig has demonstrated that the inciting cause of dengue is ultra-microscopic, and circulates in the blood of the affected individual. The *cu lex fatigans*, a species of night mosquito, is believed by them to be the medium by which the infection is communicated from one individual to another.

These are but a few of the lines of investigation along which work has been and is being done. The hookworm disease (uncinariasis) is being combated now, and promises to eradicate the deadliest enemy to physical well-being and material prosperity among the laboring classes of the Philippines. The water supply, which had served heretofore as a principal medium for the transmission of intestinal diseases of microbic origin, is being constantly improved on—in Manila by the installation of a new water-supply system (superseding the old Carriedo water-works); in the provinces by the digging of artesian wells.

Tuberculosis (which in Manila constitutes 6 per cent. of all deaths) is earnestly combated by a campaign of education. In the public schools children are taught the nature of the disease, the modes of its spreading and the ways by

which the inroads of this dreaded disease may be limited or entirely checked. Pamphlets on tuberculosis have been published from time to time by the Board of Health for gratuitous distribution among the people.

The need of medical men in the Philippines is a constant cry. There are towns and barrios still without one, and people that might be saved by the resources of the medical art die unattended, except perhaps by some obscure *cirujano ministrante*[10], an ignorant *mediguillo* or an empiric *curandero*. Their influence, let us admit in all sincerity, was not wholly bad, and they are undoubtedly not without their good points. In the Philippines, as elsewhere, be it remembered, "medicine, the most noble of all the arts," has had an humble beginning.

The Philippines had but lately emerged from a bloody war, and the industries as well as the arts and sciences have suffered a terrible set-back, and it is to the credit of the men to whose lot it had fallen the responsibility to revive the dying industries and advance the cause of education that medicine was not neglected. The Philippine Medical School was established in 1907 as a department of the University of the Philippines, and hospitals and sanitariums have been and are being erected, either at the expense of the government or by private endowments. Among the recently established hospitals are: St. Paul's, the Mary Johnston's for Women and Children, the University Hospital, and the Philippines General Hospital (soon to be opened).

Of the students selected by appointment or competitive

(10) The cirujanos ministrantes receive two years' training at San Juan de Dios Hospital, and are allowed to practice in places where there are no practitioners. Mediguillo is a Spanish word, meaning little doctor. Of the curanderos, Dr. Dougherty had written: "They do not constitute a class or caste, like the medicine men of savage tribes. They are akin to the barber surgeons of Continental Europe." Speaking of regular practice, Dr. Heiser had said: "Modern quackery was scarcely known, and even today it may be said that there are fewer irregular practitioners in the Philippines than in almost any other country in the world."

examination sent to the United States by the Philippine government, not a few of them chose medicine for their life-work. The universities of Pennsylvania, Chicago, Colorado, Northwestern, the Woman's Medical College of Philadelphia and Harvard have trained a number of Filipino physicians, but in point of number the College of Physicians and Surgeons of Chicago leads them all. Among this year's class are:

Daniel de la Paz, born January 3, 1888, at Marikina, Province of Rizal. His preliminary education was received in the Japan public schools, and attended the Liceo de Manila for a time. In 1905 he was appointed Philippine government student in the United States. During 1905-06 he attended Notre Dame University, and in the summer of 1906 the Lewis Institute. He came to the College of Physicians and Surgeons of Chicago in the fall of 1906. The summer of 1907 was spent at Northwestern Medical School. During the past year he has done special work in bacteriology at the Michael Reese Hospital laboratory, and passed the civil service examination for physicians in the Philippine service, given in Chicago March 9, 1910. Only two students took this examination, and both made a creditably good showing.

Manuel D. Foronda, born December 25, 1886, at Santa Maria, Ilokos Sur. He attended public and private schools, and had for six years as tutor a cousin of his, the parish priest of Bangor, Province of Union, D. Narberto Tamayo. He was appointed Philippine government student in 1905, and attended the University High School (Chicago), and came to the College of Physicians and Surgeons of Chicago in 1906. He was elected Class Artist in his senior year. He passed the examination for physicians for the Philippine Branch of the United States Civil Service. During the past year he did some special work in bacteriology at the Michael Reese Hospital laboratory. He is a member of the Wilmette Council of the Knights of Columbus.

Carmelo M. Reyes, born July 16, 1885, at Lipa, Batangos. He attended the public and private schools of his native

city and later went to San Juan de Letran College of Santo Toma's University and Liceo de Manila. He was appointed Philippine Government student in the United States in 1905 and attended the universities of Notre Dame (1905-06). Chicago (summer 1906) and Northwestern (summer 1907). He served as externe in Prof. A. J. Ochsner's clinic at Augustana Hospital during the past year. He is a member of the Wilmette Council of the Knights of Columbus and president for 1910-11 of the Filipino organization, Rizal Association.

Gervasio Santos, born June 19, 1886, at San Fernando, Pampanga. He was educated in the Liceo de Manila and the Tondo Secondary School. He was appointed Philippine Government student in the United States in 1904 and attended Santa Ana High School (1904-05) and the X Universities of Illinois (1905 06), Chicago (summer 1906) and Northwestern (1907). He came to the College of Physicians and Surgeons of Chicago in the fall of 1906. He had served a short intership (1909) at the North Chicago Hospital under Dr. Carl Beck. He had also worked at the Columbus Laboratory under Dr. Ghermann, and as externe under Prof. A. J. Ochsner at Augustana Hospital. He was a member of the company of the University of Illinois Regiment that won the competitive drill in 1906.

Marcelino M. Gallardo, born April 26, 1888, at San Isidro, Nueva Ecija. He attended public and private schools and appointed Philippine Government student in the United States in 1904. He went to Santa Clara College (California) (1904-05), and the universities of Illinois (1905-06), Chicago (summer 1906, 1909-10) and Northwestern (1907 1909) and from this last institution he received the degree of Pharmaceutical Chemist in 1909.

Mariano Tolentino, born September 4, 1887, at Magsingal, Ilokos Sur. He received his preliminary education from the Irestituto Ilokano and the Seminario-Colegio de Vigan and appointed Philippine Government student in the United States in 1905. He attended the University High

School (Chicago) in 1905-1906 and come to the College of Physicians and Surgeons of Chicago in the fall of 1906. During the past year he worked in the Clinical Laboratory of the College Dispensary under Dr. Seipple.

These are a few of the new votaries of Aesculapins. Born in the same decade and nurtured in the same atmosphere their childhood days were not full of promise or of hope as were those of the children of other and freer lands. They had witnessed the last convulsions of a dying regime, they had shared with their people the inhumanities of war and the cruelties of men and from those lessons so impressive and so terrible they had learned to sympathize with the oppressed and the suffering, and, in choosing medicine for their calling in life they merely gave expression to their sentiments to do good for the afflicted and the down-trodden.

The country is now in a period of transition. Forces are now at work that will make of the Filipino in a certain sense a new people. A new vigor is being instilled into the intellectual and physical life of the race. Much has been and is being done by the teacher and much is being and has been done by the physician, and whatever may be the final verdict of history on the American occupation of the Philippines, public gratitude will always recognize the unselfish devotion to duty of the American teacher and the American physician. JOSE P. BANTUG, '10.

Chicago, June 1. 1910.

SPECIAL NOTE.—Thanks are due to Miss Metta Loomis of the Quine Library for permission to consult Phillipine medical literature in the library.

In allaying inflammation in the prostatic urethra, before surgical operations, and in keeping the urine bland and non-irritating after the operation is complete, sanmetto has been used very extensively and found valuable.

To facilitate easy childbirth some physicians prescribe sametto, beginning about six weeks before confinement, with good results in every case.

SENIOR NOTES.

The short vacation between the winter and summer terms was lengthened by many of us to June 13.

A large Senior class is enrolled for this summer—62 in all at present, and still a few coming in.

"Cook County" is on the lips of most all the Seniors and the under class men, too.

By the large enrollment for this summer things look as though the present Senior class means to work hard for a place next year in Cook County. It has been said by various faculty members that this present Senior class is not up to par as far as knowledge is concerned. The fact that this is said of us should make every one of us determined to prove our worth, and to put more men into Cook County next year than have ever been put there by any one class before.

On June 2nd, after the exam. in Neurology, the late Junior class felt a load lifted off their shoulders. They had spent a hard but interesting year at work. In a way everyone was glad, because they had made three laps and now saw the last course ahead; in a word, they were Seniors now. Yet there was a sad feeling at parting from those who would not be in school this summer. Most everyone went home for a few days of rest before commencing the summer study. While others have various employments for the summer.

"We wish to announce to our readers that the well known firm of Sharp & Smith, Chicago, have added a fully equipped department for the manufacture of SHOES FOR THE LAME, which they operate in connection with their large orthopedic department. They report they are now in a position to take care of any orders for special shoes regardless of the size, style and deformity etc. Physicians having such cases come under their observation should write them for full particulars."

FRESHMAN NOTES.

We shall slam our classmates from time to time during the coming year. They cannot gain immunity by the use of a cheap cigar. The editor is incorruptible, and would reject a cigar with *scorn* and *indignation* (in public).

The Cannery: "Napoleon," meaning big Patton "goat," in reference to Officer.

The following were hastily withdrawn from the cannery on Thursday morning, when H. O. W. said: "There will be no examination."

"Study your osteology.

"If we live."

"And don't you forgit it.

"Paradoxical as it may seem."

"Ladies and gentlemen, there will be no final examination." What heavenly music!!

High Cost of Living?—Earle was unable to recognize a turkey drumstick bone—hadn't seen one so long—called it a human metacarpal (in the green room).

Quoth Emerson: "For non-conformity the world whips you with its displeasure."

"Yea, verily," said Queenie, Krolik, Kruska and Santos.

The exams are over. Several of our classmates have made a *tremendous* fight for last place.

Neff is to edit his father's newspaper this summer. Good night!

Miss Hergot will probably be the cheer leader during the coming football season.

Coleman has gone home—to the "kentry."

Big Patton is loafing.

Pea ditto.

Parry the same.

Walt. Ream likewise.

Petty also.

Link Porter is running his father's automobile this summer. He should wait until he's graduated. and slaughter the innocent legally, at least. His undignified eagerness is to be frowned upon. Try a wheelbarrow instead, old man.

"Moxley has gone to sleep for the summer." No, brother, he merely continues where he left off before the green room quizz.

In section B (anatomy):

Quizz Master—"Name the bones forming the elbow joint."

F. J. N.—Radius, Ulna and Humerus.

Quizz Master (impressively)—*Are you sure?*

F. J. N.—"W-w-hy, y-yes, d-d-d-d-don't know, yes, n-no."

ALUMNI NOTES.

A daughter, Marion Genieve, was born to Dr. and Mrs. John Ross Harger on June 10th.

Dr. J. A. Crawshaw, '05, formerly of Carbondale, Illinois, is now located at Hanford, California, where he has a very prosperous practice. During the past three weeks he has been a patient at the University Hospital; his convalescing time has been spent in writing the following poetry, dedicated to those under whose influences he was during the previous operation:

MEMOIRS.

Dedicated to Dr. Chas. Davison, Chief Surgeon at University Hospital.

I.

On a cloudy day in the month of June,
As the chilly wind hissed a tune,
I lay in a cold, death-like room,
On an iron bed to wait my doom.

II.

Swift passed the moments in their rapid rate
Until the hour was half-past eight.
Then the clock that struck my knell,
Drolefully, dolefully broke the spell.

III.

Through the door with a maddened pace
Came a man with a hardened heart and face,
And threw me on his wagon then
And hustled me off to the slaughtering pen.

IV.

When once within the blood-stained place
I saw the hopelessness of my case.
Instead of one ruffian to deal with me,
The force had already increased to three.

V.

They threw around me a blood-stained sheet,
And securely bound my hands and feet.
Then threw me on their murderous block,
Prepared at last for the final shock.

VI.

I looked about and I could see
A sandy man with a small goatee,
He more hardened to the life,
Produced the dreaded cutting knife.

VII.

They tore my clothes down to the skin,
Which was a signal to begin.
So with his fingers as a guide,
He plunged the weapon in my side.

VIII.

Through the skin the weapon goes,
Out from the wound my life's blood flows.
This they stopped with a hemostat,
And proceeded at once to dissect the fat.

IX.

The fatty layer dissected through,
He cuts the muscle fibers, too,
Which brought him down (he told his pal)
Into the original canal.

THAT FUNNY FEELING.

I

There is something most magnetic,
When you take an anaesthetic
And know that pain will be no more.
There's an awful funny feeling
Silently oe'r you comes stealing
When your thoughts begin reeling
As they chase through by the score.

II

You are awfully energetic
As you take the anaesthetic.
Something seems to pierce you to the core
As you feel the darkness creeping
In upon you while your sleeping,
And your mind it has no keeping
As you cease to know no more.

III

You can hear yourself a pleading
While your soul in space is speeding
Speeding as it never sped before.
It is then you feel the taxing
As you feel yourself relaxing
And the whole thing is more waxing.
Than it ever seemed before.

IV

Near to death's door you are dwelling
As the ether you keep smelling
Nearer than you've ever been before:
If the door with hinges, strapping,
Would gently open to your tapping,
You would enter in your napping
In the land of evermore.

V.

And distinctly I remember
As I layed there leek and limber,

Trying to regain my forgotten lore
I saw a sweet face o'er me bending,
As if she, her thoughts were lending
And I felt more pretending
Than I had a while before.

VI

'Tis some angel I was thinking,
Come to watch me in my sinking
Deep into the land of ever more,
But the whole thing was surprising
As I became more realizing
That my angel was the nurse
And nothing more.

J. P. Walsh, '03, of Hallway, Oregon, was a visitor at the College June 16. He will spend this summer in Europe.

SCHOOL NOTES.

The summer course of 1910 opened June 13. It promises to surpass all expectations. Within two days after its opening 102 students had matriculated; of this number 62 were seniors. This speaks well for the record-breaking quiz-class, which is now in formation.

The summer course is a heavy routine, as thirty-eight hours per week are offered in the Sophomore year, thirty hours in the Junior year and forty-five hours in the Senior year.

Dr. Charles Spencer Williamson spent the first part of June on a pleasure trip through the East.

Dr. O. M. Lanstrum, '04, now of Marysville, Montana, called at the College June 15.

SAD ACCIDENT OF A BELOVED CLASSMATE.—In this the month of roses, brides and sweet girl graduates there comes to out ears the tale of a sad mishap to our esteemed classmate, Oliver S. Olson. Mr. Olson is the victim of a strange though not unknown variety of carditis amaretis, traceable to an arrow wound from one D. Cupid, Esq. This disease

sometimes causes men to do very foolish and inexplicable things. Mr. Olson, it appears, became tired of the unexciting life of a bachelor, and is now enthralled in the bonds of matrimony. While this does not impede Mr. Olson's life, though it does place some restrictions on his liberty, it has been done in the pursuit of happiness. We bewail Olson's fate, and hope that their wedded life may be free of strife. We wish them every happiness. Amen!! F. B.

"INSURGENTS" WIN IN DOCTORS' WARFARE.

In the most bitter factional war ever waged in the ranks of the Chicago Medical Society the "insurgent" forces sweepingly defeated the "aristocrats" at the polls yesterday.

Dr. Alexander Hugh Ferguson was elected president over Dr. A. J Ochsner, and Dr. George F. Suker was re-elected secretary over Dr. Otis H. Maclay. The new councilors-at-large are Dr Henry F. Lewis, Dr. Arthur M. Corwin, Dr. Charles J. Whalen and Dr. Adolph Gehrman.

The fifth councilorship rests between Dr. Clyde D. Pende and Professor Ludwig Hektoen, a "regular." So close was the race between these two that the definite result will not be known until today, a recount of the votes having been ordered.

Last night's victory is the first real victory won by the younger members of the society, and the successful ones predict the "end of political abuses that have long existed in the ranks of the society."

Presidents of the branch societies elected were Dr. John T. Manierre, Dr. George N. Pratt, Dr. J. V. Fowler, Dr. S. R. Slaymaker, Dr. W. E. Baker, Dr. James G. Carr, Dr. J. T. McHugh, Dr. H. H. Mather, Dr. Willis O. Nance, Dr. J. S. Davis, Dr. W. K Weakal, Dr. C. Blem, Dr. P. W. Holleman and Dr. J. R. Fletcher.

If sanmetto is used in conjunction with instrumental treatment of urethral stricture it will be found to soothe, check or prevent the smarting and inflammation that is so common after passage of bougie.

THE PLEXUS.

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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J. S. Cohn '10

L. M. Czaja, '11

L. M. Kane, '12

R. H. Woods, '13.

Senior Poet, E. F. Czeslawski.

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Send contributions to **Ralph D. Murphy, Editor, P. & S. College, Chicago.**

ALUMNI RECEPTION AND BANQUET.

Function was Most Successful and Elaborate in History of College—Prominent Professors, Men of State, City and College, Responded to Toasts—International College Spirit was Manifested.

The Alumni Reception and Banquet of the College of Medicine occurred Monday evening, June 6th, in the Gold Room of the Congress Hotel.

The plans of the Alumni Reception and Banquet this

year were a departure from former years. In the past it had been the custom of the faculty members of the college to give a banquet to the members of the Senior class. This year not only were the members of Class '10 invited, but also the Alumni and the friends of both were asked to attend. This factor had a great deal to do with the pleasure of the occasion, and the presence of a large number of Alumni added a great deal of interest and fellowship.

The reception was indeed a congenial and a royal one. The banquet could not possibly have been improved; the menu was very elaborate; the music by the orchestra and the superb Weber Quartette was very delightful, and the varied remarks by the capable and humorous toastmaster, Dr. Chas. E. Humiston, and the responses by the different speakers, were both amusing and instructive.

Because of the late arrival of the train bringing President Edmund Janes James, the first speaker, to the city, Superintendent William H. Browne was the first speaker to respond to the humorous and reminiscent introduction by the toastmaster.

Mr. Browne spoke on "Point of View." He said in part: "The point of view varies perspectively and according to the numerous and different experiences. My point of view has changed greatly in having the pleasure of watching the different classes graduate from the College of Medicine. The success which I have had in this institution, and the success of the college and of each class, both in and out of school, is due to the help of our honored dean.

"The Class of 1910 is indeed a unique one. Within its numbers are seven men from the Philippine Islands, who have been carried by the college during the past four years, with these students paying but their laboratory expenses. I wish on this occasion to pay a tribute to these seven men, because of their record not only in their department, but for their earnestness in their studies and in their ideal character.

"These be strange times in the history of medical colleges; but I believe that good will come, and within ten

years there will be a uniform standard of medical education in all of the forty-six states—that the medical education will find itself."

The toastmaster then read telegrams from absent alumni. Dr. James B. Eagleson, Class '85, sent a long and interesting message, giving the peculiarities of his professors as they were impressed upon his memory.

Dr. Humiston next introduced President James, who had just entered the banqueting room. It was a highly appreciated treat to see and listen to our college president himself, and not his representative. His remarks were extremely interesting, and even arousing and especially timely, as they concerned the value of the criticism of Chicago medical colleges made in that morning's paper by Abraham Flexner, of the Carnegie Foundation Committee for the Advancement of Education.

President James in part said:

"The indictment brought against the city of Chicago and the state of Illinois by the Carnegie Foundation for the Advancement of Teaching in the matter of Medical education is in essence just and true," he said "and the way to meet it is not by trying to defend indefensible conditions, but by putting our house in order and remedying the effects of the present situation. Nothing will be gained by trying to hide our heads, ostrichlike. Under a mass of small criticisms and minor corrections, trying to raise a dust of abuse and recriminations for the purpose of concealing the real issue.

"The fact is that the city of Chicago and the state of Illinois have not now and never had a first class medical school, and it is also true that they never will have the co-operation of public spirited citizens in the form of substantial gifts of endowments, or the support of the people of the state through the state treasury, or both, shall be secured for this great and important department of public education, in a similar way and to a similar extent as they have been secured for arts and science, for education in agriculture and engineering and law and theology.

"Chicago and Illinois are cursed with the incubus of ignorance, incompetence and charlatanry to an extraordinary extent, and the only way to change conditions is to change policies. The present condition is certainly a disgrace to the city, the state and the nation.

"It is still true after all our effort that Chicago has no first class medical school and that Chicago has a larger number of inferior and fake medical enterprises that any other city in the United States. It is not only a local but a state and national scandal. It would be a great mistake to suppose that no one has known these things in the city of Chicago and that no one has tried to remedy them.

"But, after all is said and done, the work of President Rogers and President Harper and myself, the work of these great schools and of these three great universities has not actually as yet brought about the result of establishing in this state even one properly equipped, properly organized medical school of first class rank."

He concluded by saying that he has in the past and intends, until success is assured, to go before the state legislature of Illinois and ask for an ample appropriation to support a medical college the equal of any in this country, and perhaps to that of any country.

William J. Siegler, 1910, next responded to the toast, "The New Doctor." After picturing the experiences of the new doctor in his first location, and giving some excellent advice to his fellow-classmates, he read the following original poem:

"The Men That Don't Fit In."

There's a race of men that don't fit in,
A race that can't stay still;
So they break the hearts of kith and kin,
And they roam the world at will.

They range the field and they rove the flood,
And they climb the mountain's crest;
Theirs is the curse of the gipsy blood,
And they don't know how to rest.

If they just went straight they might go far;
They are strong and brave and true;
But they're always tired of the things that are,
And they want the strange and new.

They say: "Could I find my proper groove,
What a deep mark I would make!"
So they chop and change, and each fresh move
Is only a fresh mistake.

And each forgets, as he strips and runs,
With a brilliant, fitful pace,
It's the steady, quiet, plodding ones
Who win in the life-long race.

And each forgets that his youth has fled,
Forgets that his prime is past,
Till he stands one day with a hope that's dead
In the glare of the truth at last.

He has failed, he has failed; he has missed his chance;
He has just done things by half.
Life's been a jolly good joke on him,
And now is the time to laugh.

Ha! ha! He is one of the Legion Lost;
He was never meant to win;
He's a rolling stone, and it's bred in the bone;
He's a man who won't fit in.

Mr. J. P. Beck, President of "The Tribe of the Illini," the Chicago alumni organization of the University of Illinois, was the next speaker. He welcomed the graduates into the "Tribe of the Illini," and enthused them with the alumni spirit. President Beck invited them to share the pleasures of the frequent gatherings of the alumni—especially to attend the weekly luncheons held each Thursday at the Wellington Hotel.

The toast-master then introduced Judge Charles S. Cutting. It was indeed a pleasure to listen to the Judge of the largest probate court in the world. Judge Cutting re-

sponded to the toast "Parisites." After giving many humorous explanations of what the word parasite might mean, he defined it as applying to the medical profession—"a man without ample qualification toying with the health of those about him".

The last speaker on the program was our honored and highly respected Dean, Dr. William E. Quine. He spoke on "Woman's Sphere," a subject on which he is surely alone as an authority.

Dean Quine in part said: "The first woman was not slow in recognizing her profession, or getting her husband in awful trouble, and without any unnecessary delay she proceeded to raise Cain.

"Women are better than men in purity, benevolency, self-sacrificing, influences. Marriage and home are among the greatest assets for either man or woman. The place for woman in the medical profession I am not sure about, but she can by her devotion, untiring efforts and loving disposition accomplish many things which man is incapable of doing."

He then paid a great tribute to such woman as Florence Nightingale, Jane Addams and others, and asked, "But for women what would become of our homes for crippled children, our homes for destitute children, of our churches, our schools and our homes."

The speaker's remarks were full of humorous and solemn thought, betraying his own noble character and successful career. He closed his speech with his favorite toast:

Here's to a real one
Here's to a steady one
Here's to a true one
Here's to all that is true
Here's to the neatest one
Here's to the sweetest one
Here's to them all in one
My Love I mean you.

During the intermission between the different courses of the banquet and between the different toasts, either the Weber Quartette sang their special songs or the entire gathering sang such songs as:

"We're here because we're here."
"Illinois."
"In the good old summer time."
"A big night to-night."
"So long, Mary."

AMUMNI BANQUET
COLLEGE OF PHYSICIANS AND SURGEONS
COLLEGE OF MEDICINE UNIVERSITY
OF ILLINOIS

MONDAY EVENING, JUNE THE SIXTH
NINETEEN HUNDRED AND TEN
CONGRESS HOTEL
GOLD ROOM

"Some hae meat and canna eat,
And some would eat that want it,
But we hae meat, and we can eat;
Sae let the Lord be thankit." —Burns.

MENU

Little Neck Clams
Cream of Asparagus, Rachel
Relishes
Medaillon of Bass, Dorothy
Tenderloin of Beef, Cepes Bordelaise
Potatoes Parisienne
French String Beans
Strawberry Sherbet
Roast Philadelphia Squab
Salad
Mousse au Chocolat
Cakes Cheese
Coffee

Apollinaris

PROGRAM

Dr. Chas. E. Humiston, Toastmaster

Star of Love — Weber Quartette

"My ears were never better fed." —Pericles

"Our Future" — President Edmund Janes James

"Here comes a man of comfort, whose advice
Hath often stilled my brawling discontent."
—Measure for Measure.

"Point of View" — Superintendent William H. Browne

"Oh, wad some power the giftie gie us
To see oursel's as ithers see us,
It wad frae monie a blunder free us
And foolish notion." —Burns

Longshoreman — Weber Quartette

"The Good Old Days" — Dr. James B. Eagleson, 1885

"And panting Time toiled after him in vain."
—Samuel Johnson

"The New Doctor" — William J. Siegler, 1910

"The firste vertu, sone, if thou wolt lerne,
Is to restreyne, and kepe wel thy tonge."
—Chaucer

Garden of Roses — Weber Quartette

"The Tribe of The Illini" — Mr. J. P. Beck

"Society is now one polished horde,
Formed of two mighty tribes,
The Bores and Bored." —Byron

"Parasites" — Judge Charles S. Cutting

"A fine volley of words, gentlemen, and quickly
shot off." —Two Gentlemen of Verona

Annie Laurie — Weber Quartette

"Woman's Sphere" — Dean William E. Quine

"Grace was in all her steps, heaven in her eye,
"In every gesture, dignity and love."
—Paradise Lost

GOOD NIGHT

Officers: President, Dr. Charles Edward Humiston; First Vice President, Dr. Calvin Willoughby Harrison; Second Vice President, Dr. Geoffrey J. Fleming; Secretary, Dr. Philip Henry Holmes; Treasurer, Dr. Clyde D. Pence; Necrologist, Dr. Louis J. Mitchell.

Great credit is due the Committee on Arrangements: Dr. Charles Edward Humiston, Dr. Philip Henry Holmes, Dr. Clyde D. Pence, William H. Browne.

TWENTY-EIGHTH ANNUAL COMMENCEMENT.

The twenty-eighth annual commencement of the College of Physicians and surgeons was held in the Studebaker Theatre on Tuesday morning June seventh, nineteen-hundred-ten at ten-thirty. The exercises of this commencement surpassed those of all former years in impressiveness and success.

As the orchestra played Mendelssohn's Grand March, "Athalie," the one hundred and thirty one graduates wearing caps and gowns, entered the left rear door of the main floor of the theatre and in solemn file, led by the class president, and in alphabetical order, marched down the left aisle, taking their places in the middle block of seats. They remained standing until the invocation was given by Rev. Wm. O. Shepard.

The commencement address was delivered by President Edmund Janes James.

President James' address was wonderful in power and strength. After congratulating the class on completing one of the highest and most honorable of all professions, he emphasized for some time and in various ways the experiences of a young professional man and vividly spoke on what ideal the graduate should take for his own.

Dean Dr. William E. Quine, then with very brief ceremony presented the graduating class to the President of the University.

President James accepted the class and conferred the degree of Doctor of Medicine upon each member and pre-

sented each one a diploma as the class marched by him across the stage

Following the presentation of the diplomas, the class Valedictorian, R. William McNealy, delivered his address. He spoke in a brief but impressive manner, of the history of the class and the work which they had finished, and of the successes which the future might bring for each.

He closed his valedictory with deeply sincere thanks to the faculty for their efforts in behalf of the class, and with a few well chosen phrases bid farewell to college professors and students.

With the benediction by Rev. Shepard the exercises closed.

1910

TWENTY-EIGHTH ANNUAL COMMENCEMENT

COLLEGE OF

PHYSICIANS AND SURGEONS

COLLEGE OF MEDICINE

OF THE UNIVERSITY OF ILLINOIS

STUDEBAKER THEATRE

JUNE SEVENTH, NINETEEN HUNDRED AND TEN

10:30 A. M.

PROGRAM

Grand March—"Athalie" . . . . . *Mendelssohn*

Invocation . . . . . .

Rev. Wm. O. Shepard, D. D., Ph. D.

Sextette—"Lucia" . . . . . *Donnizetii*

Doctorate Address . . . . . .

President Edmund Janes James, Ph. D., LL. D.

Three Dances—"Nell Gwynn" . . *Edward German*

Presentation of the Graduating Class to the President of the University by the Dean

Conferring of Degrees . . . . . .

President Edmund Janes James, Ph. D., LL. D.

Selections . . . . . *Puccini*

Class Valedictory . . . . . .

Raymond William McNealey, M. D.

Selections . . . . . *Hoschna*

Benediction . . . . . .

Rev. Wm. O. Shepard, D. D., Ph. D.

Graduates—1910

Class Motto: "Humanitas et Scientia."

Franklin William Adams, Lewis Harlan Athon, Clesson Cushman Atherton, M. D., Jose P. Bantug, Amil Chandra Basu, Axel Ferdinand Benson, Emil William Bentzien, Robert Lambert Borchert, Ethel Louvier Boren, William Horrace Bradley, Wesley Edward Burnett, B. S., William Thomas Carpenter, Elizabeth D. Carroll, M. D., Henry Lewis Carruth, Lee Winfield Cary, Arthur Ames Charbonneau, Earl George Clegg, LL. B., Frances James Conroy, Joseph Samuel Cohn, Paul McAllister Currer, Edward Felix Czeslawski, A. B., Edna Valeria Dale, John Franklin Davis, Louis Belfair Derdiger, M. D., Daniel De la Paz, August Frederick Doerann M. D., Frank Gerald Douglass, Jennie A. Duncan, Jacob William Eede, M. D. Clarence Oscar Epley, William George Epstien, Marian Eleanor Farbar, Walter Irving Firey, Manual Directo Foronda, Mabel Gray Foster, William Bernard Funk, Ph.G., M. D., S. Lee Gabby, Frank Nathan Gaggin, B. S., M. D., Marcelino Mendoza Gallardo, James Charles Gillispie, George William Gindele, William Francis Glasier, Ph. G., Leonard Henry Grauer, Robert Scott Gregg, M. D., William August Gross, Arthur Francis Grove, William Roy Hedrick, Russell Rulo Heim, William Louis Hercik, Sarah Longworth Hosmon, Gordon Jackson, Harris A. Jacobson, Milton D. W. Jeffs, Arthur Green Johnson, Grover Erman Johnson, Cecil James Johnston, Alvin Thomas Jordon, James Matthew Juvinall, John Matthew Kara. Jesse Earl King, Zanvill David Klopper, M. D., Bartholomew Kunny, Ernest Haskell Kyle, Calvin John Law, M. D., Benjamin Franklin Largent, A. B., Ethel Mae Laybourne, Thomas Murray Leahy, Albert Arthur LeBeau, Philip Max LeBeau, Max I. Leviton, Will Berry Lewis, Western Cass Loomis. Aaron Tomlin Lukins, George Elzear Maley, B.S., William Charles Meacham, Daniel Edward Meaney, Julius Felix Meyer, Richard Jasper Miller, Otis Andrew Moore, B. S., Walter Dean Murfin, Robert Childers McIlvain, Charles Patrick McGarry, Helen O'Sullivan McGarry, Walter Carraway McKee, Thomas Garfield

McLin, B. S., Raymond William McNealy, William Harry Nelson, Frank William Nickel, Dennis Michael O'Donnell, Florian George Ostrowski, A. B., James Wright Packard, Frederick Charles Parker, Harry Archibald Pattison, M. D., Albert Pearson, Thomas Arthur Pettepiece, Louis Amon Pulley, Howard Herman Quaife, M. D., Phillip Graham Reedy, Carmelo Ma Reyes, Homer Erastus Rich, John William Righeimer, Albert John Roemisch, John Clifford Rogers, William Thomas Rothwell, Gervasio y Cuyagan Santos, William Daniel Schafer, Clara Margaret Schunk, Sydney Borden Scott, A. B., M. D., William Thomas Seeley, William Joseph Siegler, Sidney Albert Smith, Paul Albert Stoelberg, Charles Elmer Stevens, Zeph Stanley, Guy Stone, M. D., Amer Mills Stocking, A. M., M. D., Frank Lee Stone, George Jacob Stubenrauch, Ph. G., Howard Russell Sword, Lawrence Granger Sykes, Frank Thomas, Gordon Graham Thompson, B. S., Mariono Tolentino, Sidney N. Trockey, John Hubert Vallancy, John Marinelli Vitullo, Benjamin John Voigt, John Emmett Walsh, Richard Frederick Weissbreuner, Edward William White, William H. Wilson.

HOSPITAL APPOINTMENTS—1910

Cook County Hospital—Emil William Bentzien, Charles Patrick McGarry, Raymond William McNealy, Frank William Nickel, William Daniel Schafer, Sidney Albert Smith, Frank Lee Stone, Howard Russell Sword, Gordon Graham Thompson. West Side Hospital—Francis James Conroy, Walter Irving Firey, Jay Clifford Rogers, John Emmett Walsh, Lee Winfield Cary, Paul Arthur Soelberg. University Hospital—William Horrace Bradley, Arthur Francis Grove, Walter Caraway McKee, Western Cass Loomis. Robert Childrens McElvain. Augustana Hospital—Clarence Oscar Epley, Benjamin John Voigt. Chicago Hospital—William Charles Meacham, Dennis Michael O'Donnell, William Joseph Siegler. Columbus Hospital—William Louis Hercik, John Kara, John Marinelli Vitullo. Robert Burns Hospital—Grover Erman Johnson, Walter Dean Murfin. St. Anne's Hospital—George Elzear Maley, William Francis

Glasier. Oak Park Hospital—James Charles Gillispie. Park Avenue Hospital—Will Berry Lewis, Lewis Amon Pulley. Lakeside Hospital—William Roy Hedrick. Michael Reese Hospital—Homer Erastus Rich. Chicago Polyclinic Hospital—Bartholomew Kunny. Chicago Contagious Diseases Hospital—Max I. Leviton. Civil Service Medical Interne, State of Illinois—Thomas Garfield McLin, B. S. Englewood Hospital—Frank Gerald Douglass Evangelical Deaconess' Hospital—Leonark Henry Graner, Sidney Newton Trockey. Los Angeles Hospital, California—Arthur Ames Charbonneau, Milton Dominick William Jeffs, William Thomas Rothwell. St. Anthony's Hospital—John William Righeimer. St. Luke's Hospital—Paul Macallister Currer. United States Commission for Physicians in the Philippines—Daniel De La Paz, Manuel D. Foronda.

TREATMENT FOR HEAT PROSTRATION.

During many heat prostrations here I find that two H-M-C tablets, given fifteen minutes apart, and another in one hour, master the most severe case, where violent convulsions are present.

I have anesthetized ten patients for various surgical operations recently, and find that two tablets injected an hour apart put the patient into a deep sleep even before he is on the table, after which, during an operation lasting one and one-half hours, I used but three to four drams of chloroform with no subsequent nausea. As a result "the new anesthetic" is receiving considerable attention.

LOUIS H. FREEDMAN, M. D., Fort Worth, Tex.

H-M-C "WAKES HIM UP."

I recently used H M-C for the first time in a case of labor, with surprising results. I had already usee it many times before as an anesthetic in relieving pains and for minor cuttings, but never in a case of labor, just like a fool, until I had to use it because I had no chloroform with me—stumbled on the case away from home. God bless you, Dr. Abbott, for that compound.

J. E. LEWIS, M. D., Karawala, Great River P. O.

Founders of The University Hospital, Chicago.

DR. CHARLES DAVISON.

DR. DANIEL A. K. STEELE.

DR. EDWARD L. HEINTZ.

DR. LEWIS J. HAMMERS.

DR. CHARLES S. BACON.

THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

CHICAGO.

VOL. XVI. BATAVIA, JULY 20, 1910. NO. 7

THE FIRST ANNUAL GRADUATING EXERCISES OF THE UNIVERSITY HOSPITAL TRAINING SCHOOL FOR NURSES.

On Tuesday evening, June 21, 1910, The University Hospital held its first public exercises for the Training School for Nurses.

The institution, which is a little over two years old, has a three years' course for nurses, excluding the time for probation. The present graduating class has received time credit for service in other recognized hospitals. and is therefore enabled to graduate after two years of service in this institution.

The present class roll includes the following members:

Miss Agnes Mockler, Oak Park, Illinois.
Miss Elizabeth Wolf, Chicago, Illinois.
Miss Ruth Michel, Chicago, Illinois.
Miss Bertha Anderson, Springfield, Illinois.
Miss Jennie E Harvey, Ovid, Michigan.
Miss Kathryn Irmer, Nevada, Ohio.
Miss Minnie Snyder, Galena, Illinois.
Miss Delia Whelan, Parnell, Iowa.
Miss Helen Flynn, Ottawa, Illinois.

The degree of Honorary Graduate in Nursing was conferredupon Miss Mildred West in consideration of distinguished services rendered her profession.

A post gradute certificate was presented to Miss Ottillie Oosen.

Class Day was observed on Monday, and a special program was given at the hospital on that evening, which appears below:

CLASS DAY—MONDAY, JUNE 20, 1910.

Selection—Piano	Miss Margaret West
Reading	Miss Edna Gnadinger
Class History	Miss Kathryn Irmer
Duet—Violin and Piano	Miss West and Dr. Mac Diarmid
Address—"Woman"	Dr. Edward L. Heintz
Selection	Miss Edna Gnadinger
Class Prophecy	Miss Delia Whelan
Selection—Piano	Miss Margaret West

The graduating exercises were held Tuesday evening at the West End Woman's club, the occasion being graced by a splendid program and a very large audience of friends and relatives of graduates.

PROGRAM.

Overture	Thomas
Konrad Orchestra	
Invocation	
Reverend J. C. Brown	
Aria from Mignon	
Mrs. Walter F. Engel	
Technical Training for Nurses	
Doctor Charles Davison	
Saint D'amons	Elgar
Konrad Orchestra	
Class Valedictory	
Miss Bertha Anderson, '10	
a My Lover He Comes on the Skee	Bradsky
b Margarita	Helned
Mrs. Walter F. Engel	
Presentation of Diplomas	
Mr. D. A. K. Steele, President	
Presentation of Emblems	
Miss Mildred West, Superintendent	
Benediction	
Reverend J. C. Brown	

The University Hospital Training School for Nurses, Chicago, Class of 1910.

The address of the evening was brief, masterly and to the point, being characteristic of Dr. Davison as a speaker, as well as a teacher and hospital organizer.

This occasion was momentous, as well as unique, inasmuch as this was the first time in the history of this Country that nurses were given a degree "Graduate in Nursing" under a state charter. We hope that this plan will be adopted by other schools, feeling that this insignia will inspire better work and more earnest effort in its achievement.

At the conclusion diplomas were given to the following Interns:

John H. Berger, A. B., M. D.
George H. Musselman, M. D.
Leslie F. MacDiarmid, M. D.

Certificates were given to the following interns:

E. R. Hayhurst, A. M., M. D.
Warren Pearce, M. D.
Norman E. Marion, M. D.

J. M. B.

TORSION OF THE GREAT OMENTUM WITHOUT HERNIA.*

By Charles Davison, M. D.,
Professor of Surgery and Clinical Surgery, College of Physicians and Surgeons of Chicago. Attending Surgeon to Cook County Hospital and The University Hospital.
Chicago.

The patient, J. S., male, a Bohemian cabinet maker, 30 years of age, entered my service at Cook County Hospital November 27th, 1909 with examining room diagnosis of acute appendicitis.

He gave the following history:—Thirty-six hours previous to admission patient vomited twice, followed by severe pain in lower abdomen, below the umbilicus and above the pubes.

The most severe pain was in the middle of the lower abdomen above the pubes, radiating to the right side, and not to the left side. He did not vomit after the pain began.

Bowels moved during the day previous to operation.

Previous history of gall stones relieved by operation two years ago. Denies syphilis. Never had hernia.

Examination:

Abdomen distended, board-like rigidtiy of abdominal wall, more marked on right side, abdominal tenderness general, but more marked over right lower abdomen. Tender scar over gall bladder. Dullness on percussion over lower abdomen.

Rectal examination, unfortunately, was not made.

Temperature 101°, pulse 84 and respiration 28.

Lungs, heart and reflexes practically normal.

A man of fairly good physique.

Operation. The patient was taken directly to the operating room and the abdomen opened by right lateral incision, exposing the appendical region.

The incision gave exit to a small quantity of cloudy

*Clinical meeting of the Chicago Surgical Society at Cook County Hospital February 11, 1910.

TORSION OF THE OMENTUM DESCRIBED IN THIS ARTICLE.

fluid. The appendix was found to be buried in the adhesions of an old attack of appendicitis and was removed.

It was so evident that the appendix was not the cause of the trouble that the wound was enlarged and farther search was instituded.

A black friable mass was found, moulded to the shape of and completely filling the pelvis. The mass was hanging from the great omentum by a pedical of twisted omentum resembling a rotated umbilical cord.

The mass was without adhesions or connections with the pelvis and had no distal attachment of any kind. It was lobulated, friable, oedematous and gangrenous. It was mottled black and gray in color, and of bad odor.

The line of gangrenous demarcation was evident at a point where the twisting had obstructed the large vessels in the pedicle.

The pedicel was ligated and cut above the line of demarcation and the mass lifted out of the pelvis.

The pelvis was drained with a wick of gauze, and with the usual after treatment the man made an uneventful recovery.

The omental mass was examined carefully for evidences of attachment either recent or remote and none were found.

Search was made for tumor growth by macroscopic examination in the fresh specimen and microscopic examination after hardening. Sections were made especially along the free lower border and all showed typical omental tissue.

Torsion of the Great Omentum, causing strangulation or gangrene is not a common condition.

The greater number of cases occur as complication or sequence of abdominal hernia.

The ætiology and diagnosis of cases of torsion in relation with hernia has been fairly well established and will not be considered in this paper.

A careful search of the medical literature up to the present time shows a record of thirteen cases of purely

Case Reports of Torsion of the Great Omentum Without Hernia.

No.	Operator.	Preoperative Diagnosis.	Condition of Omental Tumor.	Attachments of Omental Tumor.	Size of Omental Tumor.	Condition of Appendix.	Treatment of Appendix.	Journal Reported.
1.	Baldwin.	Appendicitis.	Not Stated.	Inflammatory Adhessions to Surrounding Structures.	Size of Large Fig.	Obliterating Appendicitis.	Appendectomy.	Annals of Surgery 1902, Vol. XXXVI. p. 940.
2.	Syme.	Suppurating Hydatid Cyst.	Not Stated.	Small Intestines.	Not Stated.	Not stated.	Not stated.	Inter-Colonial Med. Jour. of Australasia, 1902.
3.	Noble.	Appendicitis.	Gangrenous.	Fimbrae of Fallopian Tube.	2x5 inches.	Normal.	Appendectomy.	American Jour. of Obstet- 1904, Vol. XLIX. p. 364.
4.	Stewart.	Appendicitis.	Gangrenous,	None	6x3 inches.	Appendix had 3 haemorrhagic spots beneath mucous membrane.	Appendectomy.	Jour. American Med. Association 1904. Vol. XLII p. 916.
5.	Scudder.	Appendicitis.	Thrombosed Not Gangrenous.	Inflammatory Adhessions to Pelvis.	Size of orange.	Appendix thickened and oedematous, containing muco-pus.	Appendectomy.	Annals of Surgery 1904, Vol. XL. p. 916.
6.	Simon.	Appendicitis.	Gangrenous.	None.	18 c. m. long.	Chronic Appendicitis, with adhesions.	Appendectomy.	Munch. Med. Wochenschrift 1905, No, 12.

No.	Operator.	Preoperative Diagnosis.	Condition of Omental Tumor.	Attachments of Omental Tumor.	Size of Omental Tumor.	Condition of Appendix.	Treatment of Appendix.	Journal Reported.
7.	Cullen.	Appendicitis.	Becoming Gangrenous.	Ascending Colon.	Not stated.	Thick and adherent	Appendectomy.	Johns Hopkins Reports 1905, Vol. XVI.
8.	Riedel.	Appendicitis.	Not Gangrenous.	Liver.	Size of Hand.	Chronic Appendicitis, with adhesions.	Appendectomy.	Munch. Med. Wochenschrift 1905, No. 47, p. 2257.
9.	Riedel.	Appendicitis	Not Gangrenous.	Light adhesions to small intestine, uterus and anterior abdominal wall.	8x5x1 c. m.	Chronic Appendicitis, with adhesions.	Appendectomy.	Munch. Med Wochenschrift 1905, No. 47, p. 2257.
10.	Skeel.	Appendicitis.	Gangrenous.	Surrounding Structures.	Not stated.	Closely adherent to Caecum.	Appendectomy.	American Jour Obstet. 1907, Vol. LVI, p. 799.
11.	Fuller.	Appendicitis.	Thrombosed Not Gangrenous.	Fallopian Tube	Rope like Mass	Not stated.	Appendectomy.	Jour. of Surg. Gyn. and Obstet. 1908 Vol. VII, p. 231.
12.	Whaley.	Appendicitis.	Gangrenous.	None.	Not stated.	Short and small not inflammed.	Appendectomy.	Jour. South Carolina Med. Association, Vol. IV. p. 393. 1908.
13.	Kothe.	Appendicitis.	Thrombosed.	None.	Not Stated.	Chronic Appendicitis, bound down with adhesions.	Appendectomy.	Deut. Med. Wchnschr. 1908, Vol. XXXIV. p. 738.
14.	Davison.	Appendicitis.	Gangrenous.	None.	2x6x8 inches.	Chronic appendicitis, buried in adhesions.	Appendectomy.	This Report.

intra-abdominal torsion of the great omentum with strangulation, without history of hernia. The personal case herein described makes fourteen.

It is interesting to note and is of value in attempting a differential diagnosis, that appendicitis was the preoperative diagnosis, in thirteen of these operations for intra-abdominal omental torsion without hernia.

It is good evidence that the symptoms and associated conditions simulate appendicitis when the same error is made thirteen times in fourteen cases.

The condition of the omental mass as to thrombosis and gangrene represents the degree of torsion, and the time occupied in producing the lesion. This condition to a certain degree modifies the symptoms.

The attachments of the strangulated mass are probably of ætiological significance.

In five cases the strangulated omentum was attached to other abdominal viscera. In these five cases the same method of production of the torsion probably occurred as in those more common cases related to abdominal hernia where the omentum attached both at the colon and the hernial sac rotates on itself, making two pedicals, in the same manner that a handkerchief will twist when caught at diagonal corners and rotated.

Four cases had inflammatory adhesions to surrounding parts, which evidently occurred as a result not as a cause of the twisted omentum, completely masking the question of a distal attachment as an ætiological factor in those cases.

Five cases, those reported by Stewart, Simon, Whaley, Kothe and the personal case, had no distal attachments whatever, and could not depend on bi-pedical rotation, unless the torsion was of chronic formation and the distal pedical had been twisted off long enough before operation to have completely disappeared.

Tumor growth in the omentum has been suggested as the distal fulcrum of rotation. No adventitious tumor was reported in any of the cases and none was found in the personal case after careful search.

The appendix was removed in every case reported, except Syme's case where no mention was made of the appendix.

The condition of the appendix was reported as normal in one, (Noble's case). Its condition was not stated in two (Syme's and Fuller's) cases.

There was chronic appendicitis with adhesions in seven (Simon's, Cullen's Riedel's, Skeel's, Kothe's and the writer's) cases.

In the four remaining cases, the appendix was reported in various diseased conditions.

In all of the five cases of omental torsion in which there were no distal attachments, a diseased appendix was reported.

All of these facts are exceedingly suggestive that appendicitis is an ætiological factor in the producton of the rotation or at least that intra-abdominal inflammation may produce conditions leading to rotation of the omentum.

The symptoms of this class of cases of omental torsion, as gathered from the reports, consist of:

1st. Pain.

Colicy, diffuse at first over the abdomen, and later localized to the right lower abdomen.

2nd. Nausea or vomiting.

Mentioned in most of the cases as one of the initial symptoms, but as not persistent or severe.

3rd. Tenderness.

Over right lower abdomen.

4th. Rigidity of abdominal wall.

Well marked over right lower abdomen.

In my own case, board-like in character.

5th. Tumor.

Not usually palpable, because of the abdominal rigidity.

6th. Temperature.

99° to 101:5°. Grade of fever very even, and similar in all of the cases.

7th. Bowels are not particularly affected.

8th. The leucocyte count was made only in one case, showing increase of white cells.

The differential diagnosis between this condition and appendicitis is difficult, if not impossible, as shown by the preoperative mistakes in diagnosis in the reported cases.

In appendicitis we depend on the combination and sequence of the cardinal symptoms in making a diagnosis.

In these cases of omental torsion each operator (except Syme) recognized the irregularity of the symptoms, as compared to the typical symptoms of appendicitis.

Yet the variation of the symptoms was not great enough to change the preoperative diagnosis.

In the personal case the symptoms were irregular for appendicitis, in that:

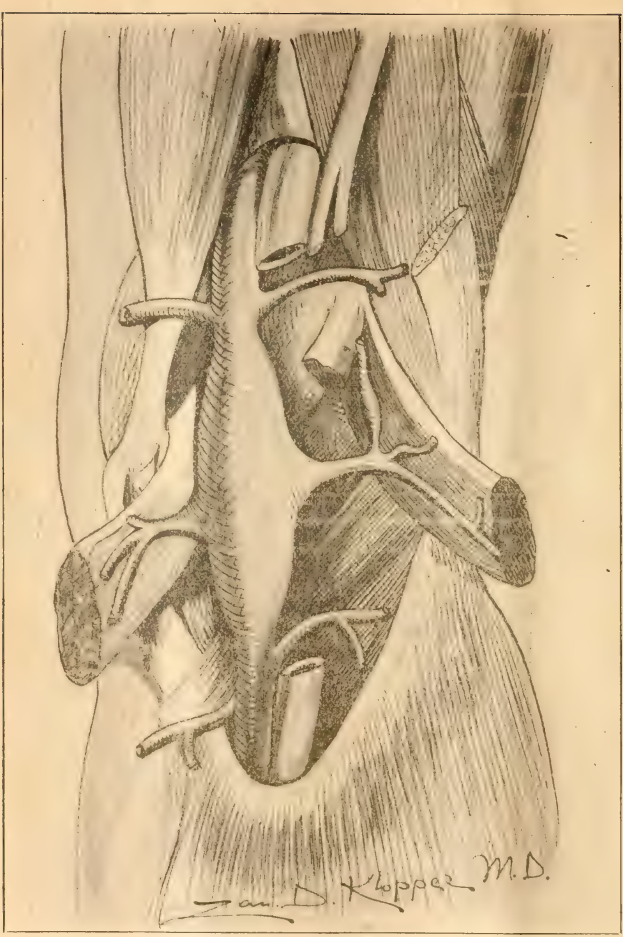
1st. The vomiting preceded the pain

2nd. The initial paroxysmal pain was below the umbilicus, instead of around it.

3rd. The later pain was most severe in the middle of the lower abdomen, instead of at McBurney's point.

It is probable that with the increasing records of cases we will be able to distinguish symptoms in combination or sequence that will aid us in the differential diagnosis.

No correct diagnosis of the disease under consideration has yet been made before operation.



FUSIFORM POPLITEAL ANEURYSM.

REPORT OF TWO CASES OF POPLITEAL ANEURISM CURED BY THE MATAS METHOD.

By D. A. K. Steele, M. D., LL. D., Chicago,*
Professor of Clinical Surgery, Actuary, College of Physicians and Surgeons, Medical Department, University of Illinois.
Surgeon to The University Hospital.

Mr. President and Members of the Society:

It is now some eight years since Professor Rudolf Matas of Tulane University directed our attention to a new method for the radical cure of aneurism based upon arteriorrhaphy, and sufficient time has elapsed and the results of many operators have been so satisfactory as to give the new operation a permanent place in surgical procedures for the cure of this serious condition.

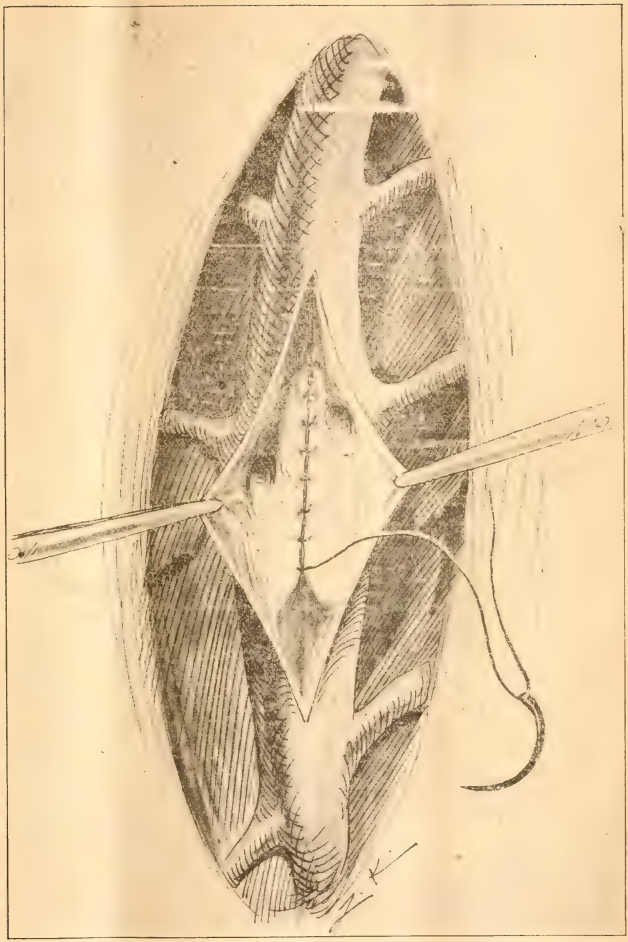
The principles which underlie the technique of the Matas operation are very simple and are based upon well established histological and pathological data. The essential feature of his operation is that the aneurismal sac is regarded as a diverticulum or prolongation of the parent artery with which it is connected and that the lining membrane of the sac is a continuation or expansion of the endothelial intima lining the artery. In other words, the sac when fully formed is the analogue of serous cavities elsewhere both from a histological and embryological sense and from a surgical point of view to be treated as other serous cavities. The fibrous adventitia and endothelial intima are continued as expansions of the pre-existing coats of the parent artery, so that for surgical purposes the sac whether of traumatic or pathological origin can be regarded as a prolongation or expansion of the affected vessel.

The technique of the operation is as follows: Hemostasis is secured in the ordinary method by the elevation of the limb and the application of the Esmarch elastic constrictor, when the affected artery is situated in an extremity; when located in the neck or in a location inaccessible to the appli-

*Read before the South Side Branch, Chicago Medical Society, June 30, 1910.

cation of an Esmarch constrictor, pressure may be applied over the exposed artery by a Crile artery compressor or with a traction loop passed under the artery and held by an assistant, or the artery may be controlled by direct pressure with a suitable padded forcep. The sac is exposed by a long, free incision parallel in the long axis of the aneurism, and by a careful dissection all important structures that might belong to its superficial surface are identified and pushed to one side until the sac is reached and recognized, when it is opened and evacuted of its contents, blood clots or organized lymph. After emptying and cleansing the sac carefully, search is made to discover any collateral branches or openings aside from the entrance and exit of the parent vessel. The interior of the sac is thoroughly, but gently rubbed with sterile gauze to clear it of laminated blood clots, and this irritation by rubbing on abrasions causes it to unite more quickly when sutured. The suture material used may be either silk or chromicized catgut or fine kangaroo tendon. I give preference to chromicized catgut Nos. 2 and 3 introduced into a round full curved needle with a long eye similar to those known as Mayo's intestinal needles. Eight or ten sutures to the inch are sufficient to occlude the aneurismal sac. Circular sutures are applied around the orifice of the arterial opening into the sac and over these a second suture may infold the intima and *fibrous* coats over the first suture, just as we apply a Lembert suture in intestinal work. Then the walls of the sac are folded upon itself in the manner illustrated in this drawing which I now exhibit. Two or three superimposed layers of either interrupted or continuous catgut sutures will completely obliterate the aneurismal sac and then a long tension suture of silk may be placed through the skin and tied over a compress to approximate the superficial structures to the deeper layers of the sac and thus avoid leaving any dead spaces. Ordinary interrupted silkworm skin sutures are used for completing the operation.

Then a firm compress of gauze, and cotton secured by a



POPLITEAL ANEURYSM. FIRST ROW OF SUTURES IN FOLDING SAC.

roller bandage after enveloping the entire limb with cotton and over all a light plaster-of-Paris cast is placed. Artificial heat is placed around the limb after completing the operation. I present the following two cases for your inspection operated upon at The University Hospital as evidence of the advantage of the Matas operation over other methods of treatment for popliteal and other aneurysms.

CASE I.

Mrs. Mary Treter, 60 years old, German nativity entered The University Hospital July 11th, 1909, with the following family history. Mother died at the age of 83 years of old age; father died at the age of 77 from pneumonia. Two step-brothers died, one from complications following a fracture of the shoulder, the other was killed in civil war. Has one sister living and well at the age of 71 years. Patient had the ordinary diseases of childhood; malaria at the age of 21; rheumatism at the age of 40 and up to the present time at intervals. She was married at the age of 18. Has borne nine children, eight living and well, the other child died at birth.

Present trouble. Began about two months before entering the hospital when she noticed a throbbing lump in the popliteal space of the left leg which caused her a great deal of pain on motion of the leg when walking or exercising.

The lump grew larger very rapidly, and as it increased in size the pain became very severe and it was impossible for her to obtain sleep on account of the constant pain. The leg seemed too short when she attempted to walk and the slightest motion caused increasing pain. She was operated on July 12th, 1909. I found a large sacculated aneurism of the popliteal artery, the sac containing laminated blood clots and some free blood. The technique of the operation that I have described was carried out in all details, as you see illustrated in these drawings. She made an uneventful recovery and left the hospital July 27th and has remained perfectly well since. She had also an aneurysm of the ascending arch of the aorta which I treated by the introduction through a

hollow needle of a coil of steel wire which remained in the aneurysmal sac for several days when one day she complained of a pricking pain in the shoulder and I found the end of the wire presenting under the skin near the acromium process of the scapula, where I made a slight incision and removed it. The irritating presence of the wire in the sac seemed to have induced an adhesive endarteritis for the walls of the sac became very much thicker and denser and the pulsations less marked in the aortic aneurism.

Her husband, Charles Treter, aged 64 years, about six months ago, developed aneurism of the abdominal aorta just below the diaphragm. I made an incision through the abdominal wall over the aneurismal sac, hoping to be able to compress the aorta above the aneurism and treat it after the Matas method, but found it impracticable on account of my inability to control by pressure the circulation in the aorta above the aneurism, as it extended up to or through the diaphragm, so I contented myself with introducing through a hollow needle a coil of silver wire, which still remains within the aneurismal sac, but up to this time has made no materlal change in diminishing the size of the sac or arresting pulsation.

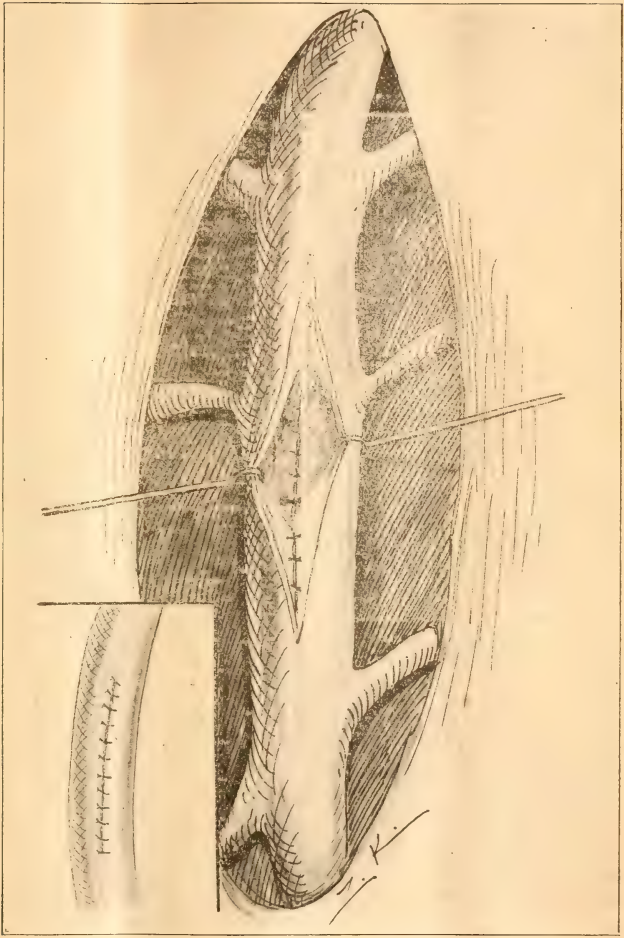
I present him for your inspection.

CASE II.

Mr. William M. Rogers, locomotive fireman, 31 years of age, American nativity, entered The University Hospital on August 12, 1909, with the following history:

Mother living and well; father died at the age of 56 years from Bright's disease; two sisters are living and well, one sister and one brother dead. Cause unknown.

Patient had ordinary diseases of childhood. About one year before entering the hospital noticed a dull aching pain in the back part of his left knee joint, which began to grow worse, and finally became so severe that he was obliged to give up his work entirely. After a few days' rest he would feel better, but upon attempting to resume work the pain became so severe that he was obliged to give up



Papliteal Aneurysm. Final row of sutures in obliteration of sack by Mata's method

altogether. Upon entering the hospital a small tumor behind the left knee joint, which pulsated with expansile pulsation, was detected on deep palpation, and a diagnosis of popliteal aneurism of the fusiform type made. He was operated on August 12th by a long incision parallel with the axis of the fusiform aneurism in the popliteal space. Sac was opened, the distal and proximal ends of the artery ligated with No. 2 catgut. Two small vessels entering the sac were also ligated, and two small ulcerated areas, probably syphilitic endarteritis, were found. Sac was obliterated by interrupted sutures of No. 2 chromicized catgut, doubling it upon itself in the manner described. Over these two superimposed layers rows of sutures were placed, and the further steps of operation were the same as described in the first case. He also made an uninterrupted recovery, and left the hospital on the 26th day of August. Some swelling of the foot and leg persisted for several months, but eventually disappeared, and he resumed work some four months subsequently, and is now working on a farm.

WHY IT IS IMPORTANT TO RECOGNIZE THE ECLAMPTOGENIC TOXEMIA OF PREGNANCY AS A DISTINCT DISEASE.

By Charles S. Bacon, A. M., M. D.,
Professor of Obstetrics, College of Physicians and Surgeons, Medical Department, University of Illinois. Obstetrician to The University Hospital.

Eclampsia is not a good name for that toxemia of pregnancy which culminates in convulsions. By using the term eclampsia we concentrate attention upon a phenomenon or symptom and not on the morbid process. It is analogous to the use of the term convulsions in pediatrics instead of intestinal intoxication or whatever else may be the cause of the convulsions. Or it is like calling hemorrhage of the lungs a disease, instead of pulmonary tuberculosis, which sometimes leads to hemorrhage.

That it is proper to assume that there is an abnormal condition of pregnancy, a disease, of which eclampsia or convulsions is the culmination, nearly all will agree. Whether we are yet able to describe, differentiate and name such a disease may be a subject for discussion.

It may be said that the term eclampsia itself is already applied to this morbid condition. Some who understand the term in a broader sense than its etymological one apply it to designate fetal toxemia in which convulsions do not occur that present post-mortem pathologic changes similar to those of eclampsia. This is called eclampsia without convulsions. The term eclampsia is not generally used, however, for those milder toxic conditions which clinically resemble the pre-eclamptic state but which do not lead on to convulsions because of the termination of pregnancy by a rapid labor or because of a control of the toxic condition by proper therapeutic management.

It might be said that we are not yet able to construct a disease entity until we know more of its nature. So long as the cause of eclampsia is not known and various theories are held by investigators in this field it is imposible to define the disease and it is better to leave the attempt to define the general pathological condition till the etiological factor has been demonstrated to the satisfaction of all. To this I would suggest that the etiology of many diseases is not known, yet we do not hesitate to differentiate the disease by its symptoms or its pathological anatomy. Examples are measles, scarlet fever, whooping cough, rheumatism, rheumatoid arthritis, etc.

The question is have we a sufficiently distinctive pathological anatomy conforming to a symptom complex to enable us to build up a disease entity and if so, is there any practical advantage in having such a disease picture.

I believe it will be generally admitted that the characteristic pathological changes found in the tissues and organs of the body in fatal cases of eclampsia are so related to characteristic symptoms that we may reasonably assume that

these symptoms are in non-fatal cases likewise due to or are associated with like morbid changes. From the practical standpoint I think it will be easy to show that the predication of and the insistence on the existance of a disease that often ends without convulsions but that may become one of the most dangerous to pregnant women, will emphasize as nothing else can, the importance of watching the pregnant state, and will help enormously in prophylactic treatment.

For lack of a better term we may call this disease, the eclamptogenic toxemia of pregnancy or gravidal eclamptogenic toxemia. The assumption that the disease is a toxemia does not I believe, commit us to any of the rival theories concerning its origin, for all modern theories assume a toxic condition which at least effects the blood and for the development of which the blood is a factor. The term eclamptogenic properly calls attention to the chief symptom of the serious or advanced stage of the disease. That the disease belongs to pregnancy there is no doubt although its effects may last into the period of labor and its most striking manifestation, the convulsion, may not appear till after the end of pregnancy.

We will then attempt to formulate a brief description of this gravidal eclamptogenic toxemia from the clinical and pathological findings, of various observers and students of private and clinical cases. We may say that the disease is characterized by certain metabolic, secretory and circulatory disturbances which lead to the manifestation of edema, vascular hypertension, albumenuria and other urinary disturbances, retinal injuries and nervous disturbances, including headache, nausea, dizziness and finally convulsions.

Without undertaking to decide between the various theories of the workers who are attempting to solve the question of ovular intoxication, we may agree that the blood changes among which increase in the fibrinogen is important, and thrombosis play an important part. Likewise the liver injuries which probably interfere with its functions as a weaker-up of the large molecules, have a most serious effect

on the toxicity of the blood. Then the injuries of the kidney interfere with elimination, and so help to aggrevate the condition.

Such a concept, if generally recognized, would aid us greatly in the study of the pathology of pregnancy. We could diagnose the disease, determine its frequency, make a prognosis and formulate a rational prophylactic and curative treatment.

THE MEDICINAL THERAPY OF COUGH.

By Edward L. Heintz, Ph. G., M. D.,
Adjunct Professor Materia Medica, College of Physicians and Surgeons, Medical Department of the University of Illinois,
Physician The University Hospital.

The most important thing for a physician to determine in relation to cough is its cause. It is necessary to differentiate between useful cough and useless cough. The success of the treatment depends upon the physician's ability to recognize the cause.

Cough may be a symptom of disease of any part of the respiratory system, the heart, stomach, liver, kidneys or the nervous system. It may be due to gout, rheumatism, alcoholism, neurasthenia, hysteria or cerebral disease. It appears most frequently as a symptom of inflammation of some part of the respiratory tract.

The methods of treatment of this more or less formidable symptom are (a) hygienic, (b) dietetic, (c) mechanical, (d) surgical and (e) medicinal. The present paper is confined to a consideration of the last named method.

The following prescriptions have been found useful in the conditions indicated:

Cough caused by local irritation above the epiglottis.

℞	Gm. vel Cc.	
Potass'i chloratis	2	5
Tincturae ferri chloridi	5	
Glycerini q. s. ad	90	

Misce; fiat solutio.

Signa: Use a dessertspoonful as a gargle every two (2) hours. Brush the teeth well with baking soda and water after each dose.

Cough of acute faucial and pharyngeal inflammation.

R	Gm. vel Cc.	
Mentholis	0	65
Ammonii chloridi	6	
Syrupi tolutani q. s. ad	90	

Misce; fiat solutio.

Signa: Shake the bottle. Take a teaspoonful every two (2) hours.

Acute bronchitis.

R	Gm. vel Cc	
Morphinae sulphatis		065
Ammonii carbonatis	6	
Fluidextracti glycyrrhizae	45	
Aquae q. s. ad	90	

Misce; fiat solutio

Signa: Shake the bottle. Take a teaspoonful in a wineglassful of water every two (2) hours.

Subacute bronchitis.

R	Cc.
Elixiris terpeni hydratis N. F.	90

Signa: Take a teaspoonful every three (3) hours.

Chronic bronchitis.

R	Gm. vel Cc
Strontii bromidi —	
Tincturae opii camphoratae aa	12
Elixiris aromatici q. s. ad	90

Misce; fiat solutio.

Signa: Take a teaspoonful in a wineglassful water every three (3) hours.

Whooping cough.

℞	Gm. vel Cc.
Bromoformi	4
Glycerini q. s. ad	90

Misce; fiat solatio.

Signa: Take a teaspoonful every two (2 hours.

and

℞	Gm. vel Cc.
Mentholis	1 | 3
Olei eucalypti	30
Petrolati liquidi q. s. ad	90

Misce; fiat solutio.

Signa: Use teaspoonful in teacupful hot water. Inhale fumes

Pneumonia.

℞	Gm. vel Cc.
Ammonii carbonatis	6
Fluidextracti glycyrrhizae	9
Aquae q. s. ad	90

Misce; fiat solutio.

Signa: Take a teaspoonful in a wineglassful water every two (2) hours.

or

℞	Gm. vel Cc.
Ammonii chloridi	6
Syrupi scillae compositi	20
Syrupi q. s. ad	90

Misce; fiat solutio.

Signa: Take a teaspoonful every two (2) hours.

Asthenic conditions.

Strychnia salts, oxygen and aromatic spirit of ammonia.

Pulmonary tuberculosis.

℞	Gm.	
Creosoti	4	8
Olei olivae	7	2

Misce; divide in capsulas XXIV

Signa: Take one capsule every four (4) hours.

Pleurisy.

℞	Gm.	
Extracti nucis vomicae		065
Codeinae phosphatis		2
Acidi acetylsalicylici	3	60

Misce; divide in capsulas XII.

Signa: Take one capsule every three (3) hours.

Acute catahrral laryngitis.

℞	Cc.
Tincturae benzoini compositae	90

Signa: Use a teaspoonful in a teacupful of hot water. Inhale five minutes every half-hour.

Chronic laryngitis.

℞	Gm. vel Cc.
Ammonii iodidi	5
Syrupi aurantii	20
Aquae q. s. ad	90

Misce; fiat solutio.

Signa: Take a teaspoonful in a wineglassful water three (3) times a day after meals.

or

℞		Gm. vel Cc.
Sodii bicarbonatis	—	
Sodii boratis	aa	1
Aquae q. s. ad		90

Misce; fiat solutio.

Signa: For use in atomizer. Heat the solution and spray the throat morning and evening.

and

R	Cc.
Olei eucalypti	30

Signa: Place five drops on a teacupful hot water and inhale three times a day.

Chronic catarrhal pharyngitis.

R	Cc.
Liquoris sodii boratis compositi N. F.	22 | 5
Aquae q. s. ad	90
Misce.	

Signa: For use in atomizer. Spray throat and nose morning and evening.

R	Gm. vel Cc.
Argenti nitratis	6
Aquae destillatae	30
Misce; fiat solutio.	

Signa: Apply locally once a day with applicator.

CHOREA.

By Ralph Sherman Michel,
Associate Clinical Professor of Medicine, College of Physicians and Surgeons, Medical Department, University of Illinois,
Neurologist The University Hospital.

Chorea is a functional disease of the nervous system, characterized by involuntary muscular movements, increased by excitement and ceasing during sleep. It is said to be functional because at this time no organic change can be shown with certainty. Possibly researches of the future may demonstrate some organic change as yet unknown, although the efforts to find such change have been persistent and thorough.

Chorea frequently follows an attack of acute rheumatism or occurs in persons of rheumatic diathesis. This is so often true that there would seem to be some connection between the two diseases. It arises however independently of rheumatism, and in a vast number of cases the producing cause of the strange visitant is utterly unknown. It frequently fol-

lows mental worry or nervous shock, *especially fright*. This is an important and frequent cause. Age is a determining factor as it is essentially a disease of childhood or youth. Exceptionally older persons are affected. Females are more prone to the disease than males.

Chorea commences somewhat slowly and is often mistaken at first for awkwardness or carelessness. Not many days elapse however until its presence is unmistakable. Its tendency is to get worse for the first week or two. Ordinarily volition is not totaly lost. The choreic movements can be in a measure held in abeyance and some little control over the muscles is shown. Its distribution is irregular although fairly constant in the same individual. Sometimes the upper extremities are affected—sometimes the lower; or the arm and leg of one side. It affects the muscles of the head and face, but rarely the muscles of respiration or deglutition. Locomotion is awkward and difficult—sometimes impossible. The patient may be unable to feed himself, or to dress and undress. It may be necessary in some cases to keep him in bed. Cases are occasionally seen in which the movements are so violent and continuous that it is necessary to restrain the patient in order to prevent self inflicted injury. In all cases however the movements cease during sleep.

The mental faculties are somewhat impaired in every case—often noticeably so. The child of 10 becomes the child of 6, as if nature had turned backward the hands of time. With recovery the mind is fully restored to its normal condition. No permanent mental defect follows.

Chorea is not usually difficult of diagnosis. It may be confused with paralysis agitans—tic—some forms of epilepsy —tremors from alcohol or metalic poisoning—salaam convulsions and possibly a few other diseases.

However the age of the patient, the peculiar grotesque "crazy" movements, ceasing during sleep, the mentality, etc., render the diagnosis evident without especial difficulty as a rule.

The treatment of Chorea is in part medicinal and in part

hygienic. The hygienic management is of the utmost importance. The patient should be removed from all sources of irritation. The surroundings should be quiet. Moderate exercise should be encouraged in mild cases. Give plenty of sunshine and air. The food should be nutritious and easily digested. Most important of all is to secure quiet, and for this reason it is often advisable to remove city patients to the seclusion of the country.

In a medicinal way arsenic is given at present more frequently than any other drug, either by mouth or hypodermically. In the judgement of the author it is a mistake to give arsenic in large doses. The disease is self limited, with recovery in a few weeks or months, with treatment or without. What influence is exercised over it by medicine is difficult to determine. Heroic doses of arsenic may do injury, and nothing more can be accomplished by such doses than by reasonable ones. Iron is indicated in all stages of all cases and should be given in large doses. Cod liver oil is of much use, helping in a marked way in building up the debilitated system. It is usually taken without objection and should be given pure. Cimicifuga is of use and occasionally the bromides.

Hydrotheraphy is of service. A bath once or twice a day —warm at first—cooled while it is being given until it is quite cool, is often beneficial. It should be followed by brisk rubbing. This is not applicable to children who are frightened or irritated by a bath.

Cases occurring in pregnant women should receive prompt and vigorous treatment. Should the case not show improvement in a few days and should it be at all serious, abortion should be promptly done. Even then the mortality is high.

Except in pregnant women, and in cases occurring in subjects who are suffering from a fracture, the prognosis is good. The great majority of the cases recover and when recovery takes place it is complete. No unpleasant sequellae are left.

1502 N. Robey St.

THE EVOLUTION OF THE PHARMACOPŒIA.

By Bernard Fantus, M. D.,
Professor of Materia Medica and Therapeutics and Assistant Professor of Clinical Medicine, College of Physicians and Surgeons.
Medical Department, University of Illinois.

(Concluded from previous issue)

The first American book bearing the title of "Pharmacopœia" was published at Philadelphia in 1778, two years after the Declaration of Independence, for use of Military Hospital of the Army of the United States of America. It must be understood, however, that this interesting booklet of thirty-two pages, which was published as "especially adapted to our present poverty and distress, due to the ferocious cruelty of the enemy and to the bloody war unexpectedly brought upon our fatherland," was of merely temporary and local use. At this time, various European Pharmacopœias, chiefly those in London and Edinburgh were used in the United States. More important forerunners of the United States Pharmacopœia, were the "Pharmacopœia of the Masschusetts Medical Society" published at Boston in 1808 and the "Pharmacopœia of the New York Hospital," New York, 1816. In the year following the publication of the last named book, 1817, Dr. Lyman Spalding originated a plan for the formation of a National Pharmacopœia, which he laid before the Medical Society of the County of New York. The movement inaugurated by him resulted in the first Pharmacopœial Convention which met in the capitol at Washington, January 1, 1820, and in the publication of the first edition of the United States Pharmacopœia on Dec. 15, 1820. To keep the Pharmacopœia as nearly as possible up to date, decennial revision was planned, which has since then been carried out regularly.

To the succeeding three conventions only incorporated medical societies and medical colleges were invited to send delegates. In 1850, an important advance was made by inviting the incorporated colleges of pharmacy to participate in the deliberations. Since then the pharmacists have bestowed a large amount of most creditable work upon the

succeeding revisions of the pharmacopœiæ and became in consequence more and more prominent at pharmacopœial conventions, until finally the revision passed practically entirely into the hands of the pharmacists.

The ninth decennial convention met in Washington, D. C. at the appointed time, May 10, 1910. The attendance was larger than at any previous convention. I estimate that there there must have been about four hundred delegates present. The business of the convention consists in nominating the officers and a revision committee, and in formulating general principles that are to guide the revision committee in its work.

The election of Dr. Harvey W. Wiley, chief of the U. S. Bureau of Chemistry as president of the convention, was in recognition of the valiant work done by him in the enforcement of the "pure food and drugs act." Dr. Murray Gault Motter of the United States Hygienic Laboratory was re-elected as secretary.

The Committee of Revision, which heretofore consisted of twenty-five members was increased by vote of the convention to fifty; which large committee is to be known as the General Committee of Revision. This committee will elect fifteen of its members, who will be the chairmen of the sub-committees, and who will be known as the "Executive Committee of Revision."

In the personnel of the revision committee, two facts appear worthy of noting. There are five government officials upon the general revision committee in addition to the previously mentioned officers, which may be taken as a sign of the tendency toward government control of the pharmacopœia, that has recently been considerably agitated. It may be noted here that the United States is the only civilized country in the world whose pharmacopœia is not at present under government control. Another striking feature is the completeness with which pharmacists and chemists will again have control of the work of the next revision. Of the fifty members of the revision committee, forty-one are

pharmacists or chemists, while only three are practicing physicians, the other six being laboratory pharmacologists. And this in spite of the agitation that had been going on among physicians to make an attempt to recapture the pharmacopœia from the pharmacists.

The reasons for this predominence of the pharmacists in the affairs of the United States Pharmacopœia, seem to be: first, the apathy of physicians toward all matters pharmacopœial; and secondly, the fact that the American Pharmaceutical Association held its meeting just prior to the pharmacopœial convention, and in the vicinity of Washington so that a large and thoroughly organized body of pharmaceutic delegates had to deal with a smaller and absolutely unorganized medical representation. The pharmacists had agreed upon what they wanted, the physician delegates had not. The fact, however, that the work of the revision is highly technical and of pharmaceutic and chemic rather than medical nature may show the advantage of having the revision committee composed as it is at present.

From a medical standpoint, the adoption of the following principles to govern the revision committee in its work seems to be of special interest.

1. The authority given to introduce biologic assay processes for the standardization of drugs that cannot be standardized by chemical methods.

2. The introduction of official abbreviations for use in prescription writing.

3. The introduction of formulæ for reagents that are used in clinical diagnoses, e. g. Fehling's solution.

4. A list of the official prescriptions of each article is to be appended.

5. The statement of the solubilities of chemicals is to be amplified so as to e. g. include solubility in diluted alcohol and in glycerin.

6. The committee has the authority to prepare supplements to the pharmacopœia at any time such action may seem necessary, whereby the pharmacopœia may be kept

more thoroughly up to date. In these days of rapid progress, decennial revisions seem to have become insufficient.

7. The adoption of the standards recommended by the International Conference for the Unification of Formulas for Potent Remedies, which may be taken as the first approach toward an international pharmacopœia.

THE DIAGNOSIS AND TREATMENT OF COMMONER INJURIES OF THE EYE.

By William E. Gamble, B. S., M. D., Chicago,
Professor Clinical Ophthalmology and Associate Professor Ophthalmology, University of Illinois. Ophthalmic Surgeon, The University Hospital.

My experience with the general practitioner and the surgeon leads me to believe that they would gladly wash their hands of the treatment of eye injuries. This mental attitude is partly owing to the fact that they may not, in some cases, take sufficient time and care in making the diagnosis, and, therefore, feel uncertain as to the real condition of the eye; but more especially it is because occasionally from the most trivial injuries the most disastrous results follow. This is especially true of injuries of the cornea which, from its exposed position and from its peculiar anatomical construction, being without blood-vessels, and from the necessity for its perfect transparency, becomes the chief seat of danger to the patient's sight and the source from which malpractice suits and suits for damages arise.

This tissue, when punctured by a clean instrument, as, for example, in cataract extraction, has great reparative power, and but a few days are required for the healing process to take place; but add to the injury the factor of infection, and this tissue, of all tissues in the body, is least able to take care of itself. This is especially true when the injury, however trivial, is in the center of the cornea, being farthest away from the blocd vessels about its limbus, for here the bacilli and cocci can work the greatest length of

time unhindered by the action of the white blood cells which come from the distant capillaries, the result being scar formation—leucomata—which materially lessens its transparency; or the eye may be completely destroyed by the infective process.

It is very difficult, if not well-nigh impossible, to make a careful study of the cornea when it is injured, without the assistance of a corneal loupe, a condensing lens and a stain of some sort, because the patient from photophobia screws the lids together. A Coddington loupe is commonly used. I prefer the Berger bifocal loupe. A 14 D. to 20 D. lens is well suited for condensing light on the cornea—oblique illumination; I use a 2 per cent. solution of fluorescin made neutral by bicarbonate of soda. By dropping this solution into the eye and allowing it to remain for five minutes the least loss of epithelium—abrasion of the cornea—will be shown by the presence of a green stain. A 4 per cent. solution of cocain used a few minutes before using the stain increases its staining qualities. Often it is unnecessary to use the loupe, but always the condenser, focusing the light carefully over the cornea. These unrecognized abrasions are the most frequent cause of ulcers of the cornea. Especially is this the case when blennorrhea of the lachrymal sac is present. It is here especially that the old adage, "an ounce of prevention is worth a pound of cure" applies, for from the excessive pain these patients come to you as soon as they can get to the office, so that you see them early.

Proper irrigation to cleanse the conjunctival sac, and a protective bandage, keeping the eyeball still and thereby preventing mechanical interference with the proliferation of the epithelial cells over the denuded area will, in twenty-four to thirty hours, effect a cure; while without a bandage it may take several days for the epithelia to cover over the denunded surface, and in the meantime the danger of infection is very great, with the untoward results, ulcer of the cornea and scar tissue formation later, and consequently more or less permanent loss of sight.

FOREIGN BODIES IN THE CORNEA.

Especially small particles of glass or stone may occasionally remain undetected without the aid of this stain. The epithelium around the foreign body being disturbed, will take on the stain, while the foreign body itself remains as a black spot, and with the aid of the loop and condensing lens one will have no difficulty in seeing it. The nature of the foreign body can usually be determined by the history of the patient's occupation at the time of injury. If it is a particle of woody fiber or other subtance that has been blown in by the wind it can usually be removed without further disturbing the epithelial layer by means of cotton tightly wound about a toothpick. After cocainizing the eye with a 4 per cent. solution of cocain, the end of this cotton-wrapped toothpick rubbed gently over the foreign body usually enmeshes it and it easily comes off.

Cinders blown from the smoke stack and pieces of metal thrown off by the emery wheel become fixed in the epithelial layer. These, after being definitely located and the eye cocainized, can best be picked out by aid of a cataract needle or spud that is not too sharp. This operation should only be done with the aid of the loupe, as in this way the least disturbance of the epithelia about the foreign body can be obtained. These particles when thrown off are sterile, having been rendered so by heat, and if left to themselves often slough out without further danger to the cornea other than the traumatism. Commonly the meddlesome interference of a fellow-employe with his jacknife or some other infected instrument renders this comparatively harmless traumatism into the much dreaded ulcer.

It might as well be stated here as at any other place in this paper that the prognosis in injuries of the cornea, however trivial, should be very guarded, and yet not more pessimistic than the facts warrant, which can only be determined by careful study of the cornea as here indicated. Extreme optimism is never warranted. Infection may occur at any time or may take on malignant activity at any time,

for we are not only handicapped by the weakness of the cornea against microbic invasion, but we are unable to use many of the means of modifying the growth of microbes or destroying them, for the reason that solutions sufficiently bactericide to have this effect disturb the nutrition of or destroy the epithelial layer itself, and therefore offer a pabulum upon which germs feed. Solutions in the main are used for the purpose of irrigation. A half-saturated solution of boric acid or normal salt solution will best answer that purpose. After removal of the foreign body and irrigation as above indicated, the protective bandage should be applied and kept on the eye until the denuded spot will no longer take on the stain, which shows that the abraded spot has been covered with epithelia and therefore has no need of further treatment.

HYPOPION ULCER OR SERPIGINOUS KERATITIS.

While the sterile particles embedded in the epithelial layer of the cornea are comparatively harmless when properly treated, masons plying their vocation, and laborers tearing down old brick and stone buildings, often receive small particles in the eye which cause hypopion ulcer, one of the most formidable eye diseases with which we have to deal, usually resulting in total destruction of the eye-ball. The malignant type of this disease is almost universally due to pneumococci, while the less severe type is due to streptococci. This condition is usually found in patients of lowered vitality from bad habits or poor surroundings, and is commonly found among day laborers.

Clinically it presents a picture that is characteristic: history of a foreign body in the eye a few days before, usually in the center of the cornea, a crescentic infiltration seen about the site of the ulcer, now developed, which spreads and spreads until the whole cornea sloughs away. Hypopion is commonly seen early. This same condition is seen in workers in the harvest field, the awns of beards of grain producing slight abrasions of the corea and furnishing the infection atrium. It is in these cases that the surgeon should

be particularly careful in making a prognosis and should promptly institute the most painstaking treatment. In addition to carefully removing the foreign body profuse irrigation with warm boric solution should be used and the protective bandage applied. I instill a 1 per cent. solution of atropin and try to see the patient for the next five or six days.

If ulcer develops following such injuries, I cauterize with 95 per cent. carbolic acid, applied with the thinnest layer of cotton on a toothpick. If this does not stop the ulcerative process the actual cautery should be used. This will probably be the most effective remedy. Professor Saemisch instituted what is known as the "Saemisch incision," which has the disadvantage that there is incarceration of the iris in the wound, and the further disadvantage that the cornea is greatly weakened and even if the healing process does take place promptly there is often later anterior staphyloma of the whole cornea, necessitating enucleation of the eye.

DEEPER INJURIES OF THE CORNEA AND CONJUNCTIVA.

Superficial injuries of the conjunctiva, unless there is considerable loss of tissue, are of but little importance, for they readily heal and scarcely require the aid of a suture. Foreign bodies in the conjunctival sac can be easily removed by inverting the upper lid and wiping off the foreign body with cotton. Powder grains can best be removed by cutting them out with small scissors.

Burns of the cornea and conjunctiva are of frequent occurrence and, with the exception of strong ammonia fumes, etc., may cause a lesion deeper than the epithelial layer, and consqeuently result in scar tissue formation in one or both tissues, producing more or less adhesion of the eyelid to the globe, a condition which greatly disfigures the patient. The motion of the eyeball is more or less restricted. This continued pulling upon the eyeball renders it irritable. Usually these cases come to us so late that we are unable by chemical means to retard or destroy the caustic action of the burning agent. If we see the patient soon enough in cessa

of burning by mortar, oil can be used to irrigate the conjunctiva, but practically I have seldom seen a case soon enough to be worth while to use the oil irrigation. Irrigation with a fairly strong stream of water, flushing out and mechanically displacing the particles of lime and mortar, and picking out those that do not wash away is the best means of getting rid of the offending substance.

The use of cocainized vaselin is very grateful to the patient for the first twenty four hours. Cold compresses tend to relieve the pain. After the acute pain has subsided, sterilized vaselin is placed in the conjunctival sac twice a day. Atropin, of course, is used when the cornea is involved. Similar treatment would be indicated in burns from other causes. The recovery in these cases is very slow, requiring weeks, and sometimes months, for complete repair. The symblepharon resulting may be partial or very extensive, depending on whether or not the burn extended into the cul-de-sac. Until recently the repair of extensive or total symblepharon was beyond the surgeon's art. The credit for working out a successful operative procedure belongs to one of our own citizens, Prof. F. C. Hotz. By use of Thiersch grafts and lead plates—"block tin"—this deformity is relieved.

PERFORATING WOUNDS OF THE EYEBALL.

While we have seen that superficial wounds of the cornea are very prone to produce infection of the cornea, perforating wounds are almost immune from this complication, which may be accounted for by the fact that the outrushing aqueous humor washes away the materes morbi, while a perforation of the sclera by the same instrument would cause panophthalmitis, this being due to the fact that the infecting material is not washed out and the vitreous humor forms a good culture media. However, while in perforating wounds of the cornea the eye frequently escapes infection, yet it suffers frequently from injury to the lens, producing traumatic cataract, or entanglement of the iris in the wound, prolapse of iris, which necessitates prompt and heroic treatment, for this

vascular tissue, extending from without the eyeball, forms a bridge for the passage of the infective material to the interior, from which the eye may suffer secondarily.

In perforation of the sclera attempts should never be made to suture the sclera itself. Clip off the protruding bead of vitreous and suture the conjunctiva over the perforation in the sclera. Traumatic cataract can usually be satisfactorily treated by keeping the eye at rest by a bandage and the use of atropin. It occasionally happens that so great swelling occurs in the lens that glaucoma supervenes, when the lens material must be removed by incision in the cornea to save the eye from the disastrous results of this complication.

In case of prolapse of the iris, if the patient is seen within a few hours after the injury, the following operative procedure should be at once instituted: After thoroughly irrigating the conjunctival sac, and cocain applied, the prolapse should be separated by a thin spatula from the grasp of the corneal wound, and with a pair of iris forceps the iris should then be pulled out about one-eighth of an inch, and with one stroke of the scissors the protruding part should be snipped off, allowing the remaining iris to fall back into the anterior chamber in its natural position. If the patient is not seen until thirty-six hours or more after the injury, the prolapse at that time is thoroughly bound down by inflammatory exudate, and it is not then advisable to reopen the wound, as many cases have been reported in which panophthalmitis followed this later reopening of the wound. When inflammatory complications follow in these cases they are usually of the acute type, and come on within the first week.

Perforating injuries in the region of the ciliary body—that is, one-eighth of an inch back of the limbus of the cornea—are always of serious import to the injured eye, for to the danger of panophthalmitis may be added the results of the injury to the ciliary processes, the vital organ of the eye, which may result in permanent reduction in tension,

with consequent shrinking of the eyeball, and thereby complete loss of vision. While there is danger of sympathetic ophthalmia resulting from perforations of any part of the eyeball, yet experience has taught that perforating wounds through the ciliary body, and especially if the iris or ciliary body prolapse, is by far the commonest source of this much-dreaded complication. Enucleation is to be advised in perforation through this region by a blunt instrument producing much destruction of tissue, with loss of sight. It often forms a knotty problem for the surgeon to know how to treat injuries of a lesser degree, with the preservation of useful sight. It is not now opportune to discuss this in detail, as I think the responsibility in these cases should be left with the ophthalmologist.

I think it should be emphasized in this connection that the inflammatory process in the offending eye that leads to sympathetic ophthalmia in its fellow is not, as a rule, of the acute type, but is a low-grade inflammatory process, which is almost universally accompanied by tenderness on pressure of the offending eye. It is seldom that foreign bodies become encysted in the eye, and therefore of no further danger to that organ. I have seen examples of foreign bodies in the lens remaining for years without any untoward results except to the lens. Besides such mechanical irritation as is caused by non-oxidizable particles in the eye, there is added the danger of chemical decomposition which takes place in the iron, steel and copper particles, and are most harmful when the body is lying in the region of the ciliary body. It is scarcely needful to say that in every case the foreign body should be removed if possible, and if not possible that the eye should be sacrificed.

In conclusion I wish to call your special attention to the great value of the Haab, or giant magnet, in removing magnetizable particles from the eye. In a large percentage of cases these chips of iron and steel can be removed from the eye by the Haab magnet, with a resulting useful eye, if the patient is seen early. In all cases where the eyeball is not

destroyed by the piece of steel or other magnetizable substances the magnet should be tried. Usually the presence of the foreign body in the eye can be determined by the reaction of the magnet upon it. A feeling of pain when the magnet is held close to the eye is produced, which is evidence that the foreign body is in the eye. In cases where the particle has been in the eye for several days we may not get this reaction, and in such cases a radiograph should be made to determine whether it is present or not. There are comparatively few of these magnets in this country. So far as I know, Chicago has but two. Much to her discredit, this city has secured these only within the last five years.

The general hospital of every large industrial center should possess one, and the attending ophthalmologist trained in the use of this valuable instrument, for a large percentage of the victims of these injuries are financially unable to go to the ophthalmic hospitals in the large cities for treatment, and in many cases their eyes are therefore unnecessarily sacrificed.

A BLOW TO THE DENTAL PROFESSION.

The Supreme Court of Germany has decided in effect that dentistry, when practiced by the American is a trade, to be distinguished from the profession followed by the German dentists, who are all "approved." The latter is placed in the category of doctors, who are not to be regarded as traders. American dentists, whether doctors or not are, in the court's view, not in the same class: they are not organized by the State and are not subject, like the German doctors, to a special court of honor. They are consequently thrown into the category of "traders in healing" and can compete like other traders in the ways laid down by the civil law, by advertising, for example. As a matter of fact, the American dentist in Germany does exceedingly well; and certainly does not, any more frequently than German "approved" dentists, fall short of the high standard of ethics and conduct that marks the healing professions in all civilized countries.

THE PLEXUS.

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MEDICAL DEPARTMENT
UNIVERSITY OF ILLINOIS.
CHICAGO.

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Send contributions to Ralph D. Murphy, Editor, P. & S. College, Chicago.

IN MEMORIAM.

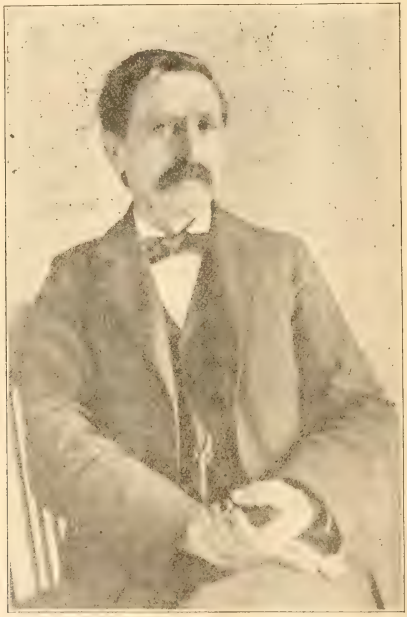
It was with sincere grief and regret that the faculty and students learn of the unexpected death of J. E. Forrest, publisher of THE PLEXUS.

Mr. Forrest has had a business and friendly connection with the college for many years, and by his continuous earnestness and devotion to increasing the influence of the institution won the good will and regard of all who knew him there.

The last few weeks of his life were filled with misfor-

tunes. A short time before his death he lost the greater part of his printing establishment by fire, covered with but little or no insurance. This was a severe shock to him, as he had spent many years in organizing and fully equipping his publishing department.

It was but a few days after this loss that he quickly and fatally suffered an attack of apoplexy.



JAMES E. FORREST, GENEVA, ILL.

Mr. Forrest was a man of excellent character, the very highest ideals and ambition, and should have lived many years more in order that he might carry out more of his

worthy plans and be permitted to enjoy more of this world's pleasures.

He leaves a wife and two daughters to mourn his loss. One daughter had been actively connected with him in his publishing work, and she will now have complete charge of the establishment, which has recently suffered such severe losses.

SCHOOL NOTES.

Dr. and Mrs. Frederick George Dyas have returned from their honeymoon trip, and after October 1st will be at home at 3966 Lake avenue, Chicago.

Dean Quine will be at his summer home, Harbor Springs, Mich., until September 1. Each year he spends six weeks in Michigan, recuperating and forming plans to increase the capacity and usefulness of the college which is so dear to him.

It is with great pleasure that we inform the students that Treasurer Tomlinson is now on his vacation, and will not return until September 1.

Architect White, of the University of Illinois, made a business call to the college July 18.

President James visited the college on the afternoon of July 19th. It was with a great deal of interest, curiosity and expectancy that we noticed his presence and its significance.

Summer school is progressing rapidly and pleasantly. It is frankly admitted that increased work is being accomplished, and interest in the college administration is fully aroused.

The current number of THE PLEXUS is one of unusual importance and interest. Several original and valuable, as well as interesting, articles are published in it. The future policy of THE PLEXUS is to increase the scope and size of the journal to such an extent as to merit a great increase in the

subscription list, which is already very satisfactory. We ask that the readers of this issue of THE PLEXUS peruse and study the different articles carefully, and then sit down at their desk and send in their subscription for one year, payable to the editor.

QUINE LIBRARY NOTES.

During the past month there have been about 200 volumes of journals returned to the library from the bookbinders. These volumes are not yet in place, as it has been necessary to have more stack room, the present space being already filled. With the placing of the new stack the library will have reached its limit of growth in the present quarters. Not only will the stack room be full, but the space devoted to study and reference work is also overcrowded. The new stack will be placed in the space which for several years has been used by the quiz class as a special study room.

Since the last PLEXUS the thirteenth annual meeting of the America Medical Library Association has been held. The Quine Library, which has been a member of this association since its beginning, was represented at the last meeting by the librarian. This organization usually meets at the same time and place as does the America Medical Association. Dr. Musser, of Philadelphia, is the president. and has done much valuable work in furthering the interests of the Medical Library Exchange. The carrying on of this exchange is one of the principal activities of the organization. Any library which is a member of the America Medical Library Association is entitled to the benefits of the exchange, which aims to effect an exchange of duplicate books, journals and transactions among the various libraries. Another activity of the America Medical Library Association is the encouraging of the organization of medical libraries in connection with county medical societies and in the smaller cities. Dr. Black, of Jacksonville, Ill., is the

chairman of the committee which looks after this department, and he has been very active in this line of work.

The Quine Library has received several gifts lately, among them being: Copy of Illio for 1911, presented by the Illio Board; Transactions of the American Dermatological Association for 1909; The Carnegie Foundation Report on Medical Education in the United States and Canada; Transactions of the Fifteenth Annual Meeting of the American Laryngological, Rhinological and Otological Society; Transactions of the American Academy of Ophthalmology and Oto-laryngology for 1909.

"READING NOTICE!"

Physicians desiring to replenish their stock of Electro-Therapeutical Apparatus should communicate with Sharp & Smith of Chicago.

Their new 112 page illustrated catalog covering this department can be had for the asking. Their "AD" appears on another page of this issue.

Dr. L. L. Gray of St. John, M., reporting the outlines of a case of enuresis-nocturna, treated with sanmetto, says the case was that of a maid thirteen years of age, who had suffered with enuresis from infancy. She was old enough to realize her condition, and keenly felt its effects. She acted as though she thought every one she met knew her troubles, and consequently she was shy, unsociable, ashamed to be seen in company. Strangers would ask if she was entirely sane.

He gave her a bottle of sanmetto, told her mother to give her all assurance that it would cure her, if properly taken. He says a second four-ounce prescription verified the truth of his statement. It did cure her, and she became a perfectly formed young lady, intelligent and sociable, the downcast countenance gone and life again worth living.

SCHOOL OF PHARMACY.

OF THE UNIVERSITY OF ILLINOIS.

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WILLIAM B. DAY, EDITOR.

NOTES FROM THE SCHOOL OF PHARMACY.

At the annual meeting of the American Pharmaceutical Association, held in Richmond, Va., last month, Professor C. S. N. Hallberg was re-elected editor of the Journal of the Association, and Professor W. B. Day was installed as first vice-president. Professor Clark read three papers before the scientific section.

The Alumni of the the University of Illinois School of Pharmacy held a reunion during the meeting and took dinner together.

At the decennial meeting of the Pharmacopœial Convention, in Washington, immediately following the A. Ph. A. meeting, Professor Hallberg was reelected a member of the Revision Committee for the (ninth) revision of the United States Pharmacopœia.

Professor Hallberg made the principal address at the annual meeting of the Kansas Pharmaceutical Association at Salina, Kan., last month, and a few weeks later addressed the Nebraska Pharmaceutical Association in annual convention at Omaha.

At the annual meeting of the Illinois Pharmaceutical Association, held at Decatur, June 14 to 17. Professor Day was re-elected secretary.

The Alumni of the school held a social meeting at Dreamland Park during the convention.

THE FATHER OF PREVENTIVE MEDICINE.

[Permission of The Medical Times.]

Robert Koch was born in 1843, the year in which Pasteur entered the university. These two great names were destined to be concerned in one of the most potent and beneficent of human revolutions. Before their time men were content to fold their hands supinely under the "visitation" of such scourges as cholera, tuberculosis, the bubonic plague, malaria and yellow fever, considering them to be punishments from on high; medical science since Pasteur and Koch has been the pillar of fire to light the way, so that every man could understand Pasteur's declaration that "it is within human power to banish all parasitic diseases from the face of the earth;" could understand that infections were preventable by the exercise of God-given, human intelligence.

Pasteur gave us the germ theory of disease; Koch (who died on May 27 last) developed this theory into a work-a-day science—the science of bacteriology, which is at the basis of prophylactic or preventive medicine. Koch when 17 years of age induced his father to get him a microscope; with which instrument he entered upon an entrancing study, that of life infinitely small. He then perfected other technical means of investigation. Becoming a plain country doctor, he continued his studies; until the German government became cognizant of his writings. This government utilizes ability, and engaged him in its service.

In 1882 came his epochal discovery of the tubercle bacillus, which placed the fight against that disease upon a secure, scientific basis. So that tuberculosis, which has for many centuries been the chief executioner of the law of the survival of the fittest, bids fair now to become eliminated from human experience.

The tuberculins evolved by Koch have proved useful for diagnosis; but as curative agencies they have been disappointing. Yet they have furnished the basis of the procedures by which such unquestionably curative agencies as the

diphtheria, tetanus, pneumonia and meningitis antitoxins have been produced.

Besides tuberculosis, other dreadful diseases have been studied by Koch with fruitful results—cholera (he discovered the cholera bacillus), malaria, yellow fever, cancer, septicaemia, cattle plague, anthrax, the bubonic plague and the sleeping sickness.

In 1906 (when long past sixty) he began an eighteen months' stay on a lonley island in Victoria Nyanza, his only white companion being an army surgeon, their only means of communication with the Hfrican region about being a canoe scooped out of a single log; here during the whole of their stay they saw but three other white men; here he pursued his studies of the sleeping sickness, and made the important discovery that the crocodile's blood forms the chief nourishment of the Tzetze-fly, the blood-sucking insect which conveys the *trypanosomes*, which are the specific cause of this dreadful disease; and here Koch elaborated important preventive and curative measures.

Malaria he attacked by establishing, under commission of the Austrian government, thoroughly sanitary conditions on Brieni, a low-lying island in the Adriatic. He then stamped out the disease by draining all the swamps, eliminating anophelines and treating the sick with an antitoxin.

Koch's position as to the possibility of human infection by the bovine tubercle bacillus has not been generally understood. Many consider he acknowledged no such possibility. He made such precise statements as the following: In the British Congress on Tuberculosis in London in 1901 he stated that "Human beings may be infected with bovine tubercle bacilli;" in the International Congress on Tuberculosis in 1908 he stated: "I desire to put myself again on record by saying I have never denied that bovine tuberculosis may occur in human beings, but I contend that these cases are rare."

We end, as we began, with coupling the names of Koch and Pasteur; these two great men developed the science of

bacteriology, which deals now with the diseases that have been responsible for more than half of all human mortality. Surely, then, we are within bounds to speak of their work as having been formative of the most benificent agency in modern civilization. The science of bacteriology as applied to the conquest of human disease, has indeed revolutionized modern medicine—with the result that in some parts of civilization (as in Koch's country, Prussia) the average span of human life has more than doubled.

DR. ELIZABETH BLACKWELL.

[By permission of The Medical Times.]

This lady, who died in England on June last, was a pioneer in the fight for the medical education of women, both in England and in the United States. When Charles Reade wrote "The Woman Hater," he got much of his material out of her experiences. She was of pioneer and fighting stock. Born in Bristol, England, in 1821, her father was Samuel Blackwell, who took his family to America in 1832. Blackwell was a sugar refiner, of abolitionist tendencies; in Cincinnati he sought to introduce the cultivation of beet sugar, and so to strike a blow at slavery by making the Southern cane sugar plantations unprofitable. But death frustrated his plans; and he left his family dependent on his their resources. Elizabeth, with her mother and sisters opened a school, and began an active campaign in the anti-slavery and higher education for women movements. She next went to take charge of a district school in Kentucky; here she came into direct contact with slavery and had to resign her position at the end of one term, but not until she had astonished her neighbors by her fearlessness in going about the country unescorted. Her brother Henry was the abolitionist and suffragist who married Antoinette Brown, the first American woman clergyman.

Of such stuff, then, was made the woman who, with characteristic energy, began the struggle to get the doors of medical colleges opened to her sex; it seems the medical

profession did not really attract Miss Blackwell; but her fight was made because she believed there was a need for women physicians, and that, in jnstice, this career should be open to women. Here is a position now unquestioned; but in the early forties many physicians to whom she wrote assured her that her ambition was impossible of fulfilment. Instead of giving up, however, she privately began the stndy of medicine in 1845; two years later she applied for admission to the four medical colleges in Philadelphia, and was refused by all. One professor is said to have offered to admit her to his classes if she would disguise herself as a man, but she refused. She was making her fight for women in general. Suffering the same fate in New York city, this courageous woman applied to twelve country colleges; and the medical school at Geneva, N. Y., granted her request, having thus the honor among American medical institutions to have enrolled the first woman student. The 150 students at this school were reputed a rough lot; to them the faculty had referred Miss Blackwell's application; they approved it as a great joke. Much to the faculty's surprise and relief the students' manners were irreproachable when this noble woman appeared in the classroom; and ever after they showed her every courtesy. She was graduated at the head of her class. After Geneva she studied with her sister Emily at La Maternite and the Hotel Dieu in Paris; and at St. Bartholomew's in London, where she gained the friendship of Florence Nightingale.

Next Miss Blackwell had to win the approval of the general public; and this was for a long time withheld in the belief that her conduct was either depraved or insane. In 1851, returning to New York, she began to practice—and was ostracised. She had difficulty in renting office room; one landlady who took her in lost thereby all her other lodgers. Dr. Blackwell was then forced to borrow money and buy a house of her own.

Not being allowed to practice in the dispensaries, this courageous innovater began one of her own; and in 1854,

with he sister Emily (who had attained her doctorate in the Western Reserve University) and Dr. Marie Zakrzewska, she founded the New York Infirmary for Women and Children —the first American hospital to be conducted by women. When the war came she called a meeting to consider means to provide trained nurses for the army; and from this inception grew the National Sanitary Aid Association. Mindful of her own struggles as a medical student, Dr. Blackwell founded the Woman's Medical College of the New York Infirmary—the first American medical college for women, which has since been merged with the Cornell Medical School. Returning to Engiand in 1869 she practiced until her death in London and Hastings, writing many notable books and pamphlets and lecturing on medical and educational topics. She founded the National Health Society of London and assisted in founding the London School of Medicine for Women. How notably does this beneficent and superb lifework indicate in its several stages what advances have been made in the education of women; profound indeed should be the gratitude of her sex for her labors and her sacrifices in its behalf.

Sharp & Smith, of Chicago, are advertising a very nice line of physici ans' operating chairs and tables, also instrument ann dispensing cabinets. Physicians requiring such supplies should communicate with this house at once in order to avail themselves of the exceptionally low prices at which these article are offered.

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FRACTURES OF PATHOLOGICAL BONES (OSTEOPSATHYROSIS) AND THEIR TREATMENT.*

By Carl Beck, M. D., Chicago, Illinois,

Professor of Surgical Pathology, College of Physicians and Surgeons Medical Department, University of Illinois.

With the addition of the X-ray as an aid the diagnosis and treatment of fractures of normal bones have reached the state of perfection of an exact science. There is, however, a large field in the pathology of bone injuries and their repair which still requires a great deal of study; viz., the group of abnormal bone structures.

The bone develops upon the base of cartilage or fibrous tissue in such a manner that from certain points of ossification lime salts are deposited in and between the cells. These lime salts are massed more closely on the outer contours than on the inside of bones, and are arranged according to laws of mechanics and architecture, so as to render the bone a very firm and at the same time a light structure.

There is a constant change consisting of the absorption of lime salts and new deposits from infancy to old age. The carriers of these changes are large cells, myeloplaxes, or osteoclasts.

According to the researches of Metchnikoff and his assistant, Weinberg, the cells develop an acid and carry off the lime substances dissolved in the same, and either excrete

*Read before the Chicago Medical Society.

them or deposit them in other tissues. This seems to be clear through the changes produced in the bones of old people. The bony structures lose much of their hardness (senile atrophy). During this period of life lime salts are found in cartilages of the joints and spinal column also in the walls of the blood-vessels (arteriosclerosis).

Under normal conditions this loss of substance is brought about through the so-called lacunar arrosion, the osteoclasts forming lacunæ (Howship) in the bony trabeculæ.

Under pathologic conditions, for different reasons, the absorption is produced irregularly; either the lime salts are withdrawn all along the borders of the trabeculæ, forming what is called the osteomalacic hem (osteomalacia), or replacing the bony structure by other tissue or by softening and liquefaction (Schmaus).

There are conditions of pathologic nature in which the relative amount of one or the other element prevails. We find, for instance, bones in which the lime salts are extraordinarily developed, such bones being unusually hard and ivory-like (osteosclerosis).

On the other hand, we find the other extreme, in which the lime salts are missing to a certain extent, making the bones very soft. There are many varieties of this absence of lime salts with combinations of different changes in the remaining structures, from which a number of distinctly typical diseases originate. There is, for instance, the disease of rickets, a disease of infancy caused by lack of lime salts, particularly in the neighborhood of the joints, and hypertrophy of osteoclasts and vessels. There is the osteomalacia with lack of lime salts with enormous numbers of osteoclasts.

The lack of lime salts may be due to infection, such as tuberculosis and paralysis of the nerves.

In other instances the lime salts disappear with the formation of cavities which are either lined with epithelium or not, and filled with a hemorrhagic fluid, the so-called bone cysts.

There is still another form of cavity formation in bone

through the softening of tumors with absorption of lime salts.

All of these varieties and their subdivisions form more or less typical diseases. While the bone of a healthy individual can withstand a certain force without breaking, these abnormally constructed bones are easily broken. This quality has been called by the barbaric name of osteopsathyrosis, which means fragility. This is not a disease, but is a symptom.

The fragility of bones depends upon many factors. It is well known that the same forces which produce a break of bone in one individual will, oftentimes, not have the same effect in another; that age, health and disease play an important role in the etiology of fractures.

A child escapes an injury of a bone because of the elasticity of the bone structures, while an old, decrepit individual sustains a fracture.

Still more important is the pathologic condition of bones in this respect. The literature of recent years and of older observations has a number of instances to relate of so-called pathologic fractures in which a slight trauma, often a turn in bed, caused the breaking of a long bone; and in such cases the examination proved an abnormal state of the bony structures, as, for instance, a sarcoma or carcinoma of bone, or of other rarefying conditions.

No method of examination has helped us more in this respect than the study of the bony structures with the X-rays, which, at a glance, show us the condition of same.

We have passed the stage of being obliged to depend upon theories. We can now demonstrate these changes ad oculos. When we pass before our eyes a large number of skiagraphs of the same region of the body, obtained from different individuals, and examine them as to the density, we immediately notice a great variety. The cancelous trabecular structure, as well as the eburneous, differ greatly in different individuals, and this certainly has some bearing on the fragility.

We have observed, for instance, that the bones of tuberculous and syphilitic individuals are different from those of healthy individuals, and even the same individual shows a difference in a time of sickness and health.

These differences and changes become more interesting when we come across some of the bone diseases in which these apparent inequalities of salt deposits are so pronounced as to form the most characteristic feature of the skiagram. I mean the condition of cystic degeneration of the bones.

I am positive that a number of so-called bone cysts in long bones are simply due to lacunar absorption, and have erroneously been called bone cysts. Nevertheless, there are also real bone cysts. When first glancing at the skiagram the bones appear different in that the lines of shadow and light are distorted, irregular, and that the shadows of bones are more or less effaced. It is natural that such bones must have lost a great deal of their resistance, and that they are more fragile on that account. In such instances the bones may break at a slight provocation, by a simple fall. It may even be that the fall is the result of the break of the bone in such a way that suddenly the weight of the body kinks the softened and rarefied bone, causing the individual to lose balance and fall. That which is considered the cause of the fracture is, in reality, the effect of it, namely, the fall.

In some instances these changes concern only a limited portion of the skeleton, while in others they are universal throughout the bony system.

During a period of years we have observed a number of cases of this kind, but only in the last few years have we found the cause for some of them, and this knowledge was obtained principally through thorough examination of the bones by the X-rays.

Without wishing to write exhaustively on the subject of repair of these abnormal bone conditions, I will endeavor to describe a few of them which we had an opportunity to

study carefully, particularly as to some new ways of treatment.

OSTEOMALACIA.

Osteomalacia is a disease well known in some countries, and studied exhaustively, but not yet fully understood. The essential osteomalacia is a well characterized disease, beginning with pains in different bones, but particularly in the pelvis, and a gradual softening of the bones of the skeleton, so that the bones infract and bend, ultimately causing the body to become a distorted, unwieldy mass of flesh and softened bones. It is principally a disease of pregnancy, but is also found outside of pregnancy, in men and even in children (Latzko and Preindelsberger). Fischer of Prag reports a whole family afflicted with osteomalacia. It also occurs in animals (Bonley). It is first mentioned by Grehovius. Buisson could report three cases in 1831. Trousseau called it the rickets of the adult, but Rindfleisch established it as a clinical entity.

Pathologically the changes are principally in the bones. The eburneous portion of the bone becomes porous, and looks as if it had been eaten away by an acid (Saulnay). The bone has a grayish color (Stransky), with a bloody or grayish fluid dripping from the pores. The trabeculæ of the marrow are either gone wholly, or are very much thinned and surrounded by a hem of transparent tissue, and soft, so that the bone can be cut like a cartillage with a knife. Howship's lacunæ and Haversian canals enlarge, and the marrow is congested. Aside from these changes microscopical examination reveals a large number of embryonal cells, including a large amount of fat. Chemically 60 per cent. of fat is found in the marrow, against 24 per cent. of normal (Marchand).

Many theories have been advanced as to the cause. First of all, the chemical theory taught that a superabundance of lactic acid (Marchand) or phosphoric (Renard) is the cause. Rindfleisch thought that passive hyperæmia through the carbonic acid is the cause, while others declare

it due to toxines. Particularly, Zuern blamed a certain micrococcus, which he cultivated from the bone marrow, but other authors could not find it. An interesting and somewhat convincing theory was advanced by Petrone, an Italian author, who produced such conditions by intravenous inoculation of nitrous earths. He blamed a nitrous ferment as the cause.

The utero-ovarian theory, brought forth by Fehling, is based upon empiricism. Knowing that after removal of ovaries the condition sometimes disappears, the trophoneurotic influence of the ovaries was thought to be the cause, after Virchow, and before him. Ogle in England (1871), had blamed the nerves for these changes. Unfortunately for this theory, the ovaries, after removal, were found to be normal.

To me the theory of Bossi seems the most probable that the suprarenal capsules have an influence upon the regulation of the salt deposits in bones, and that the absence of the particular secretion is responsible for the riot of the cells carrying on the absorption of lime salts. It seems to be borne out by experiments, as well as by the good results obtained by Bossi and others, and also by myself, by the use of adrenalin.

Bossi, who lives in a country where osteomalacia is comparatively frequent, found that an injection of adrenalin removed not only the pain, but gradually cured some of his cases. He therefore undertook some experiments on sheep. He removed the suprarenal capsule, and the result was as he expected it to be. It was followed by changes almost identical clinically and pathologically with osteomalacia, and thus established the connection between growth of bones and the suprarenal capsules. Other surgeons followed his suggestion, and had the same experience.

In our country osteomalacia is very rare. I have seen only two cases of this disease in my practice, both coming to my notice within a recent period.

While connected with Professor Schauta's clinic in Prague I had an opportunity to see two cases of osteomala-

cia in pregnant women, both having an oöphorectomy for the purpose of cure. They both improved after the operation, as far as we could judge in those days by clinical observation. All we could say was that the pain and tenderness of the bones disappeared, and that the patients could again be about. In the present day we have much better means for determining the cause and effect. We can observe the changes directly with our eyes.

One of the cases which came under my observation only within the last few weeks is the case of a woman of 65 years, who had been well until a few months ago, when she began to have a great deal of pain in her spine, and was unable to walk. The pains were located in the neighborhood of the third and fourth lumbar vertebræ, irradiating towards the front. At the same time the woman seems to be growing smaller rapidly. The upper part of her body falls into the pelvis, and she walks with great difficulty, falling, so to speak, from one side to the other. The spine in the region mentioned above is very tender. There are some symptoms of irritation of the bladder, due to some pressure upon the spine.

The X-ray picture of this case shows a certain change in the anatomical region which has been described by Neugebauer, and which is due to a softening of the tissues, particularly the cartilages, and a slipping of the same, called spondylolisthesis, but the underlying pathologic condition of this case is osteomalacia, as is clearly shown by the radiograph. Under the hypodermic injection of adrenalin the case is improving.

More characteristic and important, on account of its relation to fracture, is the second case, which we have now observed for months, and which I have the pleasure to demonstrate here tonight.

Miss S., now about 20 years of age, gives the following history: She was a robust infant until she began to cut teeth, when she had two spasms in one day. She had the usual children's diseases, such as mumps, measles, whooping

cough, chicken pox, and when about 12 years old had some enlargement of the thyroid. This disappeared when she began to menstruate, at the age of 13, to a certain degree, but not altogether. About one year previous to an accident to which she attributes all her trouble an oak locker fell upon her left hip, which caused her to limp for some time, but she had recovered fully, when she had her fall upon her left hip and broke her left femur.

Mr. S., her brother, called on me one day in November, 1908, and told me a sad story about his young sister, a girl of 19 years, who had a fall about a year previous, sustaining a fracture of the femur, and had been bedridden ever since. The doctors who had charge of the case had done everything possible under the circumstances, but since the patient did not get well, concluded that the leg was the seat of tuberculosis, and would have to be operated upon or amputated to enable her to regain her health. He brought me two X-ray pictures which showed the condition of the femur, viz.; a very angular, fibrous union of the two fragments.

The patient was brought to the hospital, and I noted the following status: A frail skeleton, rather undersized, left leg about four inches shorter, very painful and swollen, the knee stiff and swollen. An angular pseudoarthrosis or fibrous union of a fractured femur in the upper third, the usual position of the fragments, the upper one drawn outward and the lower one inward by the traction of the respective muscle groups. Above the popliteal region was a very painful indurated transverse scar from a slough produced by a plaster cast, which had cut in and caused a septic infection, which had almost carried off the patient. The foot was in a pes varus position, the large toe very painful from constant injuries during movements. The patient could move her leg only with great pain by the aid of her hands placed on hip-joint, which was free.

Our X-ray picture did not reveal to me, at first, the true nature of the bone lesion, and from the findings it was evident that nothing else but an operative procedure (an open-

ing of the leg on the site of the fracture and an apposition of the fragments with splints, according to Lane's method) would be the best. I incised the femur over the seat of the fracture, and after adaptation of the freshened fragments I joined them by the application of two aluminum splints, which were screwed on with six screws in perfect condition. An extension was superfluous. During the operation I had noticed the abnormal condition of the bony structure. The eburneous portion of the bone was very thin, the cancellous tissue very soft, so that the screws would not hold well in the soft structure. Nevertheless, the result seemed gratifying, according to a picture taken several weeks subsequently. The splints seemed to be doing their duty. The patient developed an abscess over the site of the wound, however. I took a number of pictures of the skeleton at this time, and to my surprise I found the true pathologic nature, namely, the absence of bony structure throughout the whole skeleton, in spots more or less irregular, most pronounced in the long bones of the extremities. A portable extension apparatus was now fitted, and by careful nursing and training we finally succeeded in enabling the patient to walk about the house with the aid of cane and crutch, whereupon she left the hospital for her home. A few months later her brother telephoned to me that his sister, while attempting to rise from a chair, had fallen, and this time had broken her right healthy leg and her left arm. The doctor who was called gave a very bad prognosis. She could not move in bed without having the most excruciating pain in her arms and legs. I began to scan the literature, and here the work by Bossi came to my notice, which treated of the study of osteomalacia. I had the young girl brought back to the hospital. She was in a very pitiable condition. Her left arm was so soft that I believe, had I anesthetized her, I could have bent her humerus upon itself, so soft it seemed. The pictures show a total absence of the eburneous portion of this part, and only a faint, irregular shadow indicates where the bony structure was. The physical examination shows nothing ab-

normal. Urine and blood show nothing pathognomonic. I immediately began treatment with injections of ten drops of 1-1000 adrenalin. After the first injection the pain in her right limb ceased, and after the third injection (injections of twelve drops daily being made hereafter) the arm became tolerably painless and became stronger and stronger. After about a dozen injections the arm could be moved about as previous to the accident. I never was so struck by the efficiency of a drug as at this time. Altogether she received twenty-five injections. True, at times the injections caused very unpleasant symptoms, such as tremor, a rapid heart beat, but the condition was never alarming. After a number of weeks the patient left the hospital wearing a high shoe, and is able to walk without a cane, and, as you see here, also able to stand.

SUMMARY OF THE CASE.

We have to deal here with a case of a young girl with a gradual softening of bones, due to absorption of lime salts, in areas of different size, some of them extending quite a distance, with a great tendency to fractures, with very little disposition to healing. The condition gradually grows worse, until the largest portion of the skeleton, principally the long bones, are affected. With the injection of adrenalin the pathologic condition gradually shows clearly an increase of lime salts and gradual healing.

OSTITIS FIBROSA.

In the Festschrift to the seventy-first birthday of Rudolph Virchow, Dr. Recklinghausen described a condition which he called ostitis fibrosa deformans. This pathologic condition of bones was characterized by the appearance of many whitish or brownish red, small tumors and cysts of the bones, with gradual deformation and distortion due to fractures and dislocations in the whole skeleton. Histologically he noticed the transformation of the bone marrow into fibrous tissue; hence the name ostitis fibrosa. Very often this fibrous tissue appeared with giant cells, like a sarcoma. There have been a number of cases of this rare disease reported (by

Hirschberg, Schoenberger and Rehn) since Rehn had a case on which he operated repeatedly. Weigert found giant cells in the tissue, and consequently diagnosed the case as sarcoma. Rehn, however, regarded the case ostitis fibrosa; that means an inflammatory change, with transformation of bone marrow into fibrous tissue. Virchow and most of the observers have followed the theory regarding this condition as an inflammatory change. Pfeiffer describes in the Beitrage zur Klin. Chir., 1907, four cases of this comparatively rare condition, and states that it remains for a long time unobserved, until some fracture or deformity following a fracture brings the case to the observation of the surgeon. Out of forty-nine cases recorded there have been twenty spontaneous pathologic fractures reported. From this disease must be differentiated a condition described by Ollier and his pupil Poncet, called ostitis and periostitis albuminoso; similar inflammatory changes are found due to staphylococci or tubercle bacilli (Sleelswijk and Vollert).

BONE CYSTS.

For a long time cases have been reported as bone cysts and cystic degeneration of bone which pathologically were really different conditions. We ought not to use the term "cyst" as long as we know the true pathologic origin of a condition; but it is one of those inherited terms which will make their appearance in the literature as long as there is no better understanding of their origin. Cyst means an accumulation of liquid or semiliquid substances within a shell or wall; but since it often happens that pathologic conditions of different nature, inflammatory and tumors, undergo changes of regressive nature leading to liquefaction, we often have to deal with accumulations of liquids or semiliquids in shells or walls belonging to the class of tumors or inflammation. The true cyst is the one in which the wall is lined with an epithelium which secretes the fluid. Such cysts are common in the ovaries, but they are very rare in bones; in fact, I do not know of any authentic case of such kind, except the bone cysts of the jaws and parasites. There have

been different conditions observed in bones which have been called cysts; among others the following: 1. Ziegler describes small cystic formations under the cartilages of arthritis deformans. 2. Rindfleisch, C. C. Schmidt and Mommsen have described cysts in osteomalacia. (Those are the same kind as in our case two of osteomalacia described above). 3. Lubarsch describes small cysts in old individuals, particularly in the neighborhood of the hip-joint, as of common occurrence. 4. The dental cysts; these are the only ones which are lined with epithelium. 5. All degenerations of tumors and inflammations. 6. Parasites (echinococcus).

Of the variety of cystic formations of bones I have had one case, which I have the chance to present to you tonight.

The history of the case is as follows: I. H. was 5 years old when she was brought to me by her uncle, a physician, during the meeting of the American Medical Association in Chicago, June, 1908. She had sustained a fracture of the hip by a fall, as I was told. She was seen by one of our foremost orthopedic surgeons, who had a picture taken which revealed a very peculiar feature, thought to be a tumor of the hip, perhaps a sarcoma, and the surgeon referred her to me for operation. The picture of the case showed an excellent skiagraph of a typical bone cyst; the trochanter major was considerably larger on the injured side and seemed to be deprived of its lime salts, leading to formation of small cavities, something like a honeycomb. An incision made over the trochanter and the knife entered easily into the softened bone structure, which seemed to be transformed into several chambers filled with reddish brown hæmorrhagic mass. This mass was evacuated, and the part of the shell which seemed to be superfluous was excised. It seemed as if there was only a small bridge of bone connecting the head of the femur with the shaft. A strip of gauze was introduced and the wound sutured. The child made an uneventful recovery, and was able to go home in about two weeks with a cast on her limb. A few months later she was on her feet and soon learned to walk. X-ray pictures were

taken at regular intervals, and today it shows that the region has regenerated bone well enough to make a strong head to walk upon, though the angle of the head and neck and shaft of the femur approaches more and more the right angle and there is a shortening of about an inch and one-half. The child limps slightly, but she has no difficulty in walking. The microscopic examination of the structure removed showed a loss of lime salts, together with large embryonal cells taking the place of bone cells, with a good deal of hæmorrhagic infiltration. No trace of a malignant growth could be found.

SUMMARY.

We have to deal here with a case of cystic degeneration of the bone, or what is called bone cyst. The term does not fit exactly the pathologic condition, but we do not know enough about these conditions to classify them exactly, and it will require a great deal of time and study to place these cases right.

I have in my possession a number of skiagraphs of conditions which are similar in many respects to either one of these cases,—in other respects widely different,—and I take an occasion to demonstrate a number of skiagraphs to show the changes without being able to explain the true nature of these pathologic conditions. They all have one symptom in common, however, the bones are very fragile, and consequently I place them under the term osteopsathyrosis, which means, however, nothing else but fragility.

THE SERUM DIAGNOSIS OF SYPHILIS.

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(Continued from June issue.)

Having described the development and technic of the Wassermann reaction, we shall now consider its clinical significance; but before doing so it is well first to have a clear

conception of what the reaction really is. A positive Wassermann reaction is a symptom of spyhilis, just as much and more so than is any cutaneous or other manifestation of the disease. In fact, we must admit that *it is the most important symptom.* A positive Wassermann reaction is far and away more constant than is any other symptom; and, moreover, it appears earlier than any other symptom except the initial lesion, and persists long after all other symptoms of the disease have disappeared.

Before considering the results of the reaction in syphilis it is well to have a clear idea of its behavior in other conditions. As pointed out above, there are certain non-syphilitic affections (Framboesia, Dourine, Tubercular leprosy and Trypanosomiasis) which give a positive reaction, but which in this latitude do not interest us. The question is, do we, aside from the above diseases, find a positive Wassermann reaction in any condition other than syphilis? Bruck has collected from the literature the results of the test on 5,028 cases in which there was no reason for suspecting syphilis, either in the ananesis or clinical findings. Of all these cases, only 33 gave a positive reaction. When we consider that from 20 to 30 per cent. of all patients with symptoms of tertiary syphilis give no history of the disease, and when we consider how very frequently a syphilitic condition is found post-mortem, without ever having produced recognizable clinical manifestations, we can well suppose that a large number of these 33 apparently non-syphilitic cases could still have a hidden syphilis that would account for the positive reaction.

This whole question has been studied very carefully, as the value of the Wassermann reaction would naturally depend on its absence in non-syphilitic conditions. It is now pretty universally admitted that, with the exception of the above mentioned diseases, a positive Wassermann reaction signifies that somewhere in that patient's body there is a focus of active syphilis. Of course this is only true when the reaction is performed by an observer of large experience and an exact technic. We must bear in mind, however, that in a

patient giving a positive reaction and showing certain symptoms, those symptoms do not necessarily have to be the result of syphilis, but may have an entirely different etiology. There is no reason why a patient with latent syphilis should not have an entirely independent disease.

In studying the significance of the reaction we shall consider the results obtained in the various stages of syphilis.

Primary Syphilis—The percentage of positive results varies directly with the age of the infection. A positive reaction is seldom obtained inside of three weeks after the appearance of the chancre; at this time about 40 per cent. of the cases give a positive reaction. From the third week on the percentage of positive reactions rises rapidly until the appearance of the secondary eruption, when it is practically 100 per cent. It is thus seen that a positive Wassermann reaction in a large percentage of cases antedates the cutaneous symptoms. There have been a few cases reported where a positive reaction was obtained prior to the appearance of the chancre.

For the diagnosis of primary syphilis (chancre) the demonstration of the spirochæta pallida is far more reliable than the Wassermann reaction. The positive Wassermann reaction is probably coincident with the systematization of the spirochætal infection. The proper time to diagnose syphilis is while it is a local disease, and before it has become a septicæmia. The diagnosis made, this is ths logical time to commence treatment.

Secondary Syphilis—That is, a syphilitic infection from the appearance of the first secondary eruption to the fourth year. Here the Wassermann reaction is of far greater importance than is the examination for the spirochæta pallida. In considering this stage we will divide the syphilitic cases into those with manifestations of the disease and those without any manifnstations (latent syphilis).

In secondary syphilis with symptoms of the disease statistics are as follows:

Blaschko and Citron, 99 per cent. positive reactions.

Blumenthal and Roscher, 99 per cent. positive reactions.
Behring, 98 per cent. positive reactions.
Bruhns and Halberstadter, 98 per cent. positive reactions.
Lederman, 100 per cent. positive reactions.
Schonnefeld, 100 per cent. positive reactions.
Boas, 100 per cent. positive reactions.

There have been many thousands of cases examined with similar results—the more experience one has with the test the higher the percentage is; so that in all of the recent work the percentage of positive reactions in this class of cases has been 100. Bruck says that in his recent work he has not had a single case of secondary syphilis that did not give a positive reaction.

Tertiary Syphilis—or syphilis of four or more years' duration. We shall also divide into those with manifestation and those without.

In tertiary syphilis with symptoms the statistics are about the same:

Arning, 90 per cent. positive reactions.
Blumenthal and Roscher, 100 per cent. positive reactions,
Bruhns and Halberstadter, 100 per cent. positive reactions.
Fleischmann, 98 per cent. positive reactions.
Hancken, 100 per cent. positive reactions.
Ledermann, 96.2 per cent. positive reactions.
Meier, 100 per cent. positive reactions.
Schonnefeld, 100 per cent. positive reactions.

From the above figures one can get some conception of the remarkable specificity of the reaction. Of course, there have been observations reported by less competent observers in which the results were not so uniform as the above. In my own work, extending over more than three years and comprising more than 2,000 examinations, I have never met with a case of either secondary or tertiary syphilis that showed symptoms of the disease and yet gave a negative reaction.

In the class of cases we have been considering—that is,

those with manifestations of active syphilis—the Wassermann reaction as a diagnostic aid has only a limited application for the specialist. However, it is extremely useful in that class of cases (by no means small) where even the syphilographer is in doubt as to the nature of the disease.

As noted in the early part of this paper, syphilis, more than any other disease, has the remarkable property of remaining dormant in an individual for prolonged periods of time. These are the so-called latent cases, and comprise three classes of patients.

1st. Cases with or without a history of infection, and in whom the syphilis has run a mild course without noticeable symptoms.

2. Cases which have had a certain amount of treatment, enough to prevent any manifestations. In this country they make up the majority of the latent cases.

3. Cases which have been treated according to the prevailing methods for from two to five years and have been pronounced cured. They really belong in the second class.

Here is where the Wasserman reaction has been of inestimable value to the syphilographer, for it has shown him the inadequacy of the prevailing ideas of treatment. It is rather remarkable how long a syphilitic infection can exist in a latent form, cases having been reported showing a positive reaction forty to fifty years after infection. The statistics on this class of cases are as follows:

Blaschko—Latent secondary, 80 per cent. positive reactions; latent tertiary, 57 per cent. positive reactions.

Blumenthal and Roscher—Latent secondary, 48 per cent. positive reactions; latent tertiary, 40 per cent. positive reactions.

Bruhns and Halberstadter—Latent secondary, 43.4 per cent. positive reactions; latent tertiary, 28 per cent. positive reactions.

Fleischmann—Latent secondary, 64 per cent. positive reactions; latent tertiary, 42 per cent. positive reactions.

Ledermann—Latent secondary, 75 per cent. positive reactions; latent tertiary, 36 per cent. positive reactions.

Lesser—Latent secondary, 67 per cent. positive reactions; latent tertiary, 46 per cent. positive reactions.

From the above figures the astonishing fact is brought home to us that during the first four years of their infection, in spite of treatment and the absence of manifest symptoms, approximately 60 per cent. to 70 per cent. of the patients are still syphilitic. As remarkable as is that showing, much more so is the fact that from 40 per cent. to 50 per cent. of all cases of syphilis remain uncured. What is the significance of these positive cases? They represent cases which have been inadequately treated. Neisser and Bruck showed that in experimental syphilis of animals the antibodies disappeared under treatment. Citron and others have observed the same thing in humans. It does not speak very well for the prevailing method of treatment when 40 per cent. to 50 per cent. of the cases remain syphilitic although clinically free from the disease. As a further evidence that these figures are correct, we have the result of Blaschko's investigations of insurance mortality returns; he found that 33 per cent. of the insured who gave a history of syphilis died as a result of the disease, and evidence of syphilis was demonstrable at post-mortem in 50 per cent. of the cases. These figures correspond with Lesser's observations on the autopsies of all cases at the Urban Hospital in Berlin.

What becomes of the cases which, in spite of the absence of clinical manifestations of syphilis, still give a positive Wassermann test? We can assume that possibly a very small per cent. is cured by the natural protective forces of the body. The large majority, however, represent those cases which later develop gummata, tabes, paresis, cardiovascular diseases, etc.

In support of this statement we offer the results of the serum diagnosis in these cases. The question of gummata has already been considered under tertiary syphilis with symptoms (practically 100 per cent. positive). How the mat-

ter stands with tabes will be shown by the following statistics:

Citron, 80 per cent. positive reactions.
Fleischmann, 81 per cent. positive reactions.
Eichelberg, 64 per cent. positive reactions.
Ledermann, 76.4 per cent. positive reactions.
Hoehne, 60 per cent. positive reactions.
Boas, 80 per cent. positive reactions.
Stertz, 60 per cent. positive reactions.

I have examined the blood or spinal fluid of 68 cases of tabes; 49 gave a positive Wassermann reaction. Practically all of the incipient cases give a positive reaction. I have been able to collect from the literature 580 cases, 72.6 per cent. of which gave a positive reaction.

In paresis the results are somewhat different, but even more suggestive:

Wassermann and Plaut (early work), 90.7 per cent. positive reactions.
Marie and Levaditi, 93.3 per cent. positive reactions.
Morgenroth and Stertz, 100 per cent. positive reactions.
Raviar, Breton and Petit, 93 per cent. positive reactions.
Edel, 95.5 per cent. positive reactions.
Meier, 100 per cent. positive reactions.
Plaut, 100 per cent. positive reactions.
Lesser, 100 per cent. positive reactions.
Boas, 100 per cent. positive reactions.

I have examined 8 cases, all of which were positive, and I have collected from the literature 1,188 cases, 96.5 per cent. being positive. Practically all of the recent reports show 100 per cent. positive reactions. It seems to make no difference how old the disease is; early incomplete cases show the reaction as well as advanced ones. Edel says that a negative Wassermann reaction excludes paresis. When we compare the figures in tabes and paresis with those obtained in cases showing lesions of active syphilis, we can readily understand the reason that these so-called para-syphilitic affections are now regarded as manifestations of active syphi-

lis. The clinical reports of cases treated according to these recent views would seem to substantiate this pathogenesis of tabes and paresis.

It has long been known that a large percentage of cases of aortic aneurism and aortic valvular disease gave a history of previous syphilitic infection; but it remained for the Wassermann reaction to change and crystalize our views of the pathogenesis of these conditions. We now know that approximately 70 per cent. of all cases of aortic aneurism show a positive reaction, and about 95 per cent. of all cases of aortic aneurism in patients under 40 years old are positive. Citron has shown that 62.6 per cent. of cases with pure aortic regurgitation, and 58 per cent. of cases with both aortic regurgitation and stenosis showed a positive reaction. I have examined 36 cases of aneurism and aortic valve disease; 29 cases gave a positive reaction.

It would seem that the results of the Wassermann reaction in active syphilis would preclude the necessity for further proof of the syphilitic nature of these all too common circulatory diseases; but if such proof is required, the numerous cases in which the spirochæta pallida have been demonstrated in the aortic valves and walls of aneurism would certainly dispel all doubt. As further evidence, it is only necessary to observe the marked benefit these patients receive from active anti-syphilitic treatment. In these conditions the Wassermann reaction has opened up new possibilities of cure, the greatest necessity being an early diagnosis, before the destruction has progressed too far.

Up to this point we have considered the significance of the positive reaction, and the question naturally arises: Does a negative test exclude syphilis? Unfortunately, we must admit that it does not, any more than a negative Widal reaction excludes typhoid fever. To estimate the significance of a negative test it is always necessary to consider the history and clinical findings, the question of the amount of anti-syphilitic treatment, and the length of time that has elapsed since the last treatment. The longer the period of time that

has elapsed since the last treatment the more significance has a negative test.

It would be very wrong to assume that the practical value of the Wassermann reaction is limited as to the conditions considered above. There is no branch of medicine or surgery in which it is not of value, and it has already cleared up many obscure conditions.

Syphilis of the lungs, which heretofore was considered very uncommon, has been shown to be much more frequent. Diabetes has several times been shown to be due to a syphilitic pancreatitis. Many chronic joint conditions have been shown due to a syphilitic arthritis. Many obscure hepatic, renal and nervous conditions have been cleared up by means of the reaction.

Karewski, Coenen, Baetzner and others have shown its great value in the diagnosis of surgical conditions. Leber, Cohen and Gutmann have used it with marked success in the diagnosis of eye diseases.

Eisenlohr, Alexander and Soberheim have used the test in laryngological cases, and have shown that syphilis is not an etiological factor in ozena. Burch found that 15 out of 29 cases of nervous deafness gave a positive reaction, and that 13 out of 17 cases of ostosclerosis were syphilitic.

In obstetrics and pediatrics the reaction has caused a change in prevalent views. A positive reaction is found in 100 per cent. of hereditary syphilis. The immunity of the mother as expressed in Colle's law has been shown to be due to a latent syphilis, as has likewise the immunity of the child as expressed in Profeta's law.

Neisser in his extensive experimental work on syphilis in monkeys showed that syphilis produced no immunity, and that the apparent immunity was due to an existing latent syphilis. He repeatedly inoculated, cured and reinoculated monkeys three different times.

It is self evident that to syphilographers the test has been of immense value, but strange to say its field of application has not been in the diagnosis of obscure and atypical

skin lesions as much as it has in the diagnosis of latent syphilis. We have found its greatest use in the treatment of syphilis. Citron was the first to demonstrate that anti-syphilitic treatment could change a positive reaction into a negative one. This gave rise to the modern or so-called biologic treatment, its aim being to eliminate the 40 per cent. to 50 per cent. of syphilitic patients who give a positive Wassermann test in spite of the the old form of treatment.

As has been pointed out above, we consider a positive Wassermann reaction as a symptom of syphilis, but a symptom which persists long after all other symptoms have disappeared. *Adequate anti-syphilitic treatment presupposes the absence of all syphilitic symptoms, including the Wassermann reaction.*

Therefore the modern treatment of syphilis is to give the patient *sufficient* treatment, and in that *form* which will produce a negative reaction as soon as possible, and then by continuing treatment under control of repeated blood examinations, to keep the reaction negative for a prolonged period, which for the time being, we have arbitrarily placed at two years.

In the three years that I have controled the treatment of my patients in this manner I have been more than satisfied. Under this regime it is much easier to secure the cooperation of the patient, which is so essential in the proper treatment of this disease.

In conclusion, I would say that there is no diagnostic procedure which has passed such a crucial test and has acquitted itself so well as has the Wassermann reaction. The technic is so complicated and exact that all observers emphasize the fact that the test should only be performed by persons well versed in serology.

The difficult technic has resulted, especially in this country, in the more or less extensive use of various modifications of the original procedure; the only effect of which has been to create more or less skepticism as to the value of the test.

It is manifestly impossible in a paper of this scope to do justice to such a large and important subject. We can only emphasize the fact that we have no diagnostic laboratory procedure that is nearly as reliable as is the original Wassermann reaction when performed by experienced observers, and its field of usefulness has hardly begun to be appreciated.

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INGROWING TOENAIL: ITS TRUE NATURE AND CURATIVE TREATMENT.

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For real distress and suffering occasioned by the minor or lesser surgical diseases, one would scarcely hesitate, I think, to give the one here designated a place of first importance. Certainly it is not easy for me, in reflecting upon this point now, to assign such honors to any other condition belonging to the category.

Ingrowing toenail in its severest form is exceedingly painful, leading, if not thoroughly understood, to methods of treatment which oftentimes serve to substitute a worse for a bad condition.

Most all surgical writers have been modest in describing ingrowing toenail; a paragraph, a page, or less, telling the same little story over and over again, as to how the nail in part or in whole should be evulsed. Some, as a *further* safeguard against a cure, have advised certain "flap methods" at the sides of the toe, which, when studied closely, appear to be just as aimless and useless as evulsion of the nail. Nor is this to be wondered at when we think of the thousand and one as yet unsettled questions pertaining to many surgical subjects of the major class which are constantly and almost daily claiming attention.

Ingrowing toenail, so-called, is, comparatively speaking, such a simple lesion that one hesitates to describe it without

feeling that a short preface in the form of an apology would be perhaps fitting. However this may be, I deem the subject of sufficient importance, surgically, to justify a few words as to the real nature of this complaint, as well as to the most painless and unfailing method of curing it.

It has been and is now my belief that ingrowing toenail is a misnomer; that it is not in any sense an ingrowing nail, but distinctly an overgrowing toe. If the surgeon, when confronted with this little surgical proposition, will do that which he generally fails to do, namely, compare the injured with the uninjured toe, it will at once appear that the deformity and shapelessness is in the toe itself, and not in the nail at all. The nail, of course, has an untrimmed edge, may be a little longer than usual, but will exhibit very little deviation in shape or in size from the nail of the other great toe.

The injured toe, however, when compared with its fellow, will show irregularity in contour; it will show an increase in circumference, be flattened at the point of contact with its neighbor, pressed and rolled over the nail in an ugly and shapeless mass. The untrimmed nail lies deeply buried under this hypertrophied and oftentimes inflamed and ulcerated chunk of tissue. The condition is characteristic; unclean, foul-smelling, ulcerating, a painful and elevated ridge far above the nail, the seat of such distress, that the foot is used with great difficulty.

ETIOLOGY.

The cause of this lesion is, as has been frequently described, unquestionably the use of pointed or ill-fitting footwear. With a boot or shoe narrowed at the toe, pressing or cramping the toes together, sooner or later produces the changes, in many instances, as above described.

A point which has not been emphasized in the causation of this painful process is the quality of the nail itself. Some nails, as is well known, are very hard and brittle, piercing the soft tissues when encroached upon as if by a knife. Again, other nails are very soft, and yield to most any de-

gree of pressure. Thus is explained, apparently, why tightly fitting or ill-fitting footwear will cause ingrowing nails in one individual and fail to do this in another.

TREATMENT.

This condition is, after all, a minor one; its cure should be a simple one. To evulse the nail under any circumstances, the most painful thing possible in the treatment, is wrong in principle. The accidental or intentional removal of a nail rarely destroys its matrix; from which another nail will grow, usually thick, horny and unshapely, corrugated, unsightly and unwieldy. Should such a nail find its way back beneath an overgrown nail, the condition then is more serious than the first. Besides being one of the most painful things, extraction of a nail requires weeks to heal, which is time most patients can ill afford to lose.

Ingrowing toenail is permanently and generally painlessly cured by not evulsing the nail, or even a part of it. The edge of the nail may be trimmed, but usually this is not necessary.

The operation consists in removing a certain definite wedge-shaped piece of tissue, including all the soft parts, from the side of the toe, which will, when the wound is sutured, lower position and diminish the size of this projecting abnormal mass which overhangs the nail border; thus permitting the embedded nail to rise above the mass, in which position it is easily maintained for about ten days, at the end of which time healing will be complete.

THE OPERATION.

Prepare the toe in the usual manner; seize it in the fingers and thumb of the left hand and pull it away from the neighboring toe. The entire outer surface of the great toe may now be anesthetized by using the weakest Sleich's solution. With a sharp scalpel outline an elliptical figure in the anesthetized area which should be excised, and which should include all the soft tissues to the bone. This piece of wedge-shaped tissue should be large enough so that the wound

which is left, when closed accurately by sutures, will materially diminish the size and circumference of the toe.

The upper edge of this incision or the upper limit of the ellipse should border closely on the embedded nail, leaving just enough tissue to secure a firm hold of the sutures, which are to subsequently close the wound. When the latter step is carried out it will be seen that the overriding, hypertrophied ridge of tissue has almost disappeared, and that the "ingrowing nail" is now in view, and can be made to easily rest in a position far away from and above the side of the toe. This is further accomplished by placing under the now very wieldy portion of the nail a small pledget of cotton, which will need replacing at the end of the first week, when all stitches may be removed.

If at this time the toe be carefully examined, it will appear smaller than its fellow. The toenail shows no tendency to creep under the side of the toe; the ulcer is about healed, and the patient can now resume his work. Cramping of the toes, from whatever cause, can hardly bring about again this condition, owing to the fact that the apparent redundancy of tissue at the side of the toe is removed in this operation; the size and circumference of the toe are diminished, the nail is not disturbed, and no raw surfaces are left to granulate.

I have not seen this method, when properly carried out, fail to permanently cure ingrowing toenail. If a similar method has before been described I am not aware of it. To claim "originality" or "priority," in pretentious operations even, seems childlike and silly. All this and more, because years and even a lifetime may be spent in vainly trying to credit the one entitled to the "honor," when it suddenly transpires or is shown that the great surgical feat which caused so much unrest is, after all, a worthless and useless thing. To be convinced of this statement read the past history of pelvic surgery, or that of renal surgery; and note therein the amount of human suffering, and even the number of deaths, that paid the price for unwarranted operations in which frantic efforts were made to establish "pri-

ority" in surgical procedures, before which we today should stand humiliated and ashamed.

In conclusion it may be stated that there is little difference to be noted in surgical writings in the descriptions of ingrowing toenail. Roswell Park says: "The real lesion is not so much an excess of nail growth as overgrowth and overriding of the skin margin around matrix." In simple cases he further adds: "That it is usually sufficient to excise a portion of reasonably healthy skin on either side of the terminal phalanx, in order that by cicatricial contraction the the skin may be drawn away from the nail border." But in difficult cases Park advises evulsion of the nail.

Cotting recommended that the overhanging portion of the toe be removed flush with the nail surface. This, of course, gets rid of the portion of the toe causing the difficulty, but it leaves behind a large surface to heal by granulation, which is a slow, as well as a painful process in this locality. To excise from "either side," as recommended by Park, makes an unnecessary wound and removes a portion of the toe not concerned in the difficulty, and which can not possibly have a beneficial effect in abolishing the pressure at the opposite side of the toe.

Bryant and Buck Wyeth, Keen (quoting Von Bergmann), Fowler, Foote, Walsham, Da Costa, all advise and practice evulsion of the nail in part, or all of it, for the cure in intractable cases of this kind.

To reiterate, it seems that there are here to be met three indications: First, the removal from the side of the toe involved sufficient soft parts so that in closing the remaining wound, the abnormal mass over the nail border will be dragged down and away from the nail. Second, that the nail be not evulsed or disturbed, except to elevate its edge in the manner described. Third, is to aim at a very short convalescence, which is guaranteed only by strict observance of the first and second indications.

100 State street.

PAINFUL FEET AND HOW TO TREAT THEM.

By JOHN L. PORTER, M. D., Chicago, Illinois,
Professor of Orthropedic Surgery College of Physicians and Surgeons, Medical Department of University of Illinois.

I have chosen the general title, "Painful Feet," for my subject because it is a convenient descriptive term for a group of affections of the foot which vary very much as to their etiology and pathology but all have the common symptom of pain. In fact, the pain is the *one important* thing about them all, from the patient's point of view and for which he seeks relief, in nearly every case. It is the recognition of the various diseases and conditions which produce pain in the feet that I wish particularly to call your attention to.

To begin with, it is because the feet have to bear the weight of the body and the arches and levers composing the foot are subjected to such a strain in supporting and propelling the body that the pain is located in the feet. In many conditions underlying painful feet the hands would be the seat of the pain if we were obliged to walk upon them. And our very dependence upon our feet in getting about our daily occupation lends added importance to affections of those extremities. We can suffer considerable pain and disability in the hands or other portions of the body and still keep busy, but when one's feet go back on him he is "down and out" in every sense of the term.

MAKE A CAREFUL EXAMINATION.

And right here at the outset I want to emphasize the necessity of careful examination in every case, not only of the feet but of the patient. Merely to listen to a patient's history of chronic pain in his feet, steadily increasing and with more or less disability, and then to tell him he has rheumatism and proceed to fill him up with salicylates, sending him on his way, without even examining him or his feet, is surely a travesty on the practice of medicine, but an altogether too common one.

Surely, rheumatism, like charity, covereth a multitude of sins, but chiefly in medicine—sins of omission. Probably in 75 percent of the cases of painful feet coming to our attention the patients give a history of having been treated for weeks or months for rheumatism, and when the matter is sifted to the bottom and a correct diagnosis is made, less than one per cent. is found to be due to that disease.

Pain and rheumatism have, in the past, been so generally treated as synonymous, at least where joints were concerned and our medical conception of rheumatism has been so hazy, that the term has been a very convenient one to use when we did not know what the matter was; but with our better knowledge of joint disease and of the pathology of true rheumatism it is time to realize that, so far as painful feet are concerned, the chances are 75 to 1 against that being the actual trouble.

BRIEF CONSIDERATION OF THE ANATOMY OF THE FEET.

Without doubt the most frequent of the painful foot affections is flat foot of some degree. The term flat foot is generally used to designate a breaking down of the longitudinal arch, but clinically there should be recognized three different degrees of flat foot, and for the sake of clearness I would call them, (1) weak feet, (2) flat feet and (3) rigid feet.

Weak feet are those in which the arch becomes obliterated when the patient stands, due to relaxation of the tarsal ligaments, but in which some active pronation and supination is still possible. In such cases the victims are apt to complain of pain in the latter part of the day and of extreme fatigue upon long standing or walking; and the pain is as frequently referred to the dorsal and outer surface of the foot as the inner plantar region, although tenderness about the scaphoid is naturally present. Such feet are seen more frequently in children and young adults. Support of the arch by strapping in the supinated position and the wearing of a popular shoe with a triangular heel usually results in a cure if the patient will exercise the foot daily in a way to strengthen the tibial muscles.

WHAT IS FLAT FOOT?

Group 2, genuine flat foot, is a condition in which the arch is flat when the patient is not standing, active pronation and supination is lost, and passive attempts to supinate the foot cause pain. Tenderness, often exquisite, is found about the scaphoid and os calcis, and the patient walks with a halting gait. These patients often complain of severe pain on first arising, but which wears off later after they have been about with shoes on; but later in the day they may have pain up the leg to the knee or even to the hips, and occasionally severe backache, especially in the lumbar region.

Such feet require, as a preliminary treatment, prolonged rest and immobilization in a supinated position, followed by a rigid support to be worn in a properly made shoe. My custom is to place a triangular felt pad under the scaphoid and then to put the feet up in plaster-paris in as extreme supination as the patient can stand. This is kept on for from two to four weeks, according to the severity of the case, and is really astonishing to see how much improvement is secured. The patient is made perfectly comfortable at once, and usually when the cast is removed the foot is quite freely mobile, pronation and supination have returned, the tenderness is gone, and the patient considers himself able to begin walking at once. But he will not be, for unless a proper support is at once given to the foot the trouble soon recurs. And right here is the proper place to describe what is a proper support and to correct some popular ideas about foot-plates.

PROPER SUPPORTS FOR THE FEET.

I find that the average practician has the idea that all cases of flat feet require plates, that it makes little difference what kind of plate is used, and that if he sends the patient to a shoe store to buy an arch-support, as they call them, or tells him to go to some instrument maker and have some plates made, he will be relieved. All three of these ideas are erroneous. *Some* cases are best treated by foot-plates at once, and many cases are benefited by their use during

some period of the treatment, but all the foot-plates that have been forged sice Tubal Cain would not only be of no value in many cases but even positively harmful.

When the patient applies to the shoemaker for a support he picks out one of the various styles in stock that he considers of the proper size, puts it into the shoe and collects from twenty-five cents to a dollar, and sends the sufferer on his way blissfully ignorant that not all has been done that is needful. The plate possibly may give relief for a time, or it may become so painful in a few hours that the purchaser cannot wear it. In ninety percent of the cases they have to be discarded eventually and the patients are forced to seek more expert advice.

When such a patient is sent to an instrument maker, the latter's usual method is to make, on paper, an outline drawing of the patient's foot, over this he traces an outline of the shoe, and with the aid of these he traces an outline on a piece of metal, called a "blank," which he puts into a vise with a wooden block shaped like the arch of a foot, and over this he hammers out the particular style of foot-plate he is accustomed to make. This plate he puts under the patient's foot, asks him to stand upon it, and if it does not hurt, he puts it into the shoe and tells him to wear it. If it hurts, he raises or lowers the arch, or bends the edges until the contrivance feels comfortable. Occasionally he makes a plate which gives support in the right place, and then the patient, by wearing it constantly and occasionally having it elevated, gets along very comfortably.

However, as a matter of scientific accuracy and anatomic good sense, the artisan might just as well put a china plate into the vise and try to hammer out a set of false teeth.

For no two feet are alike, and a plate to be curative must be made with an accurate knowledge as to where the trouble lies anatomically and for the particular case in hand.

THE RIGID FLAT FOOT.

And now we come to the third, and most severe, form of flat foot, the rigid flat foot. In these cases the foot is

pronated and cannot be either actively or passively supinated. The tarsus, especially the scaphoid and astragalus, are rotated inward and downward—often to such degree that the scaphoid comes in contact with the floor, the astragalus is seen projecting beneath the skin, the arch is entirely obliterated, and the patient walks with a halting, shuffling gait and with the feet turned out.

Pain often is less severe in these cases than in either of the first two classes, because the stage of severe painfulness is past, as the ligaments are relaxed and stretched to their utmost and the foot has a bony support; but the patient at this stage is extremely disabled, can walk only short distances without being fatigued, and he can not run at all. All movements at the ankle are limited, and, in fact, the foot is little else than a stiff, unyielding stump for the leg.

Such cases can only be improved, the foot can never be restored to its normal flexible, elastic condition. Feet like these usually are seen in adults past thirty-five, although occasionally they are found in young adults, while I have seen them in the case of two or three children at about the period of adolescence.

SURGICAL TREATMENT OF THE ONLY VALUE.

The only treatment that avails anything is surgical. The patient must be given an anesthetic. When complete muscular relaxation is secured, we often find that, with a McCurdy or Thomas wrench, the adhesions between the bones can be broken up, the shortened ligaments torn and stretched, and a fairly good restoration of the tarsus secured by sheer muscular force. In many of these cases the peronei muscles and tendons have become so contracted that they offer a great obstacle to reduction. Here excision of one-half to one inch of both the peroneus longus and brevis just behind and above the external malleolus facilitates the reduction very much. Where these measures are insufficient, a cuniform osteotomy, removing a bony wedge from

the internal border of the tarsus, or an astragalectomy, is the only resort.

Whatever procedure is undertaken, it must be thorough enough to permit the foot to be put in plaster-paris in a supinated position. This is maintained from four to eight weeks, depending upon the amount of traumatism that has been inflicted; and it is often surprising to find how much the foot has improved in a feeling of comfort, in usefulness and motility, following such severe measures.

After the tissues have entirely recovered from the operation some form of rigid support is devised for permanent use, and the patient is encouraged to begin putting a little weight upon the feet, massage, hydrotherapeutics and passive motion also being instituted. Some of these disabled feet are thus made much more comfortable, elastic and useful; but it requires from two to six months to secure results that will permit the patient to walk about with his shoes on again.

GONORRHEAL ARTHRITIS IS COMMON.

Gonorrheal arthritis involving the tarsal articulations, and especially the articulations of the os calcis, are much more frequent than we used to suspect; in fact, that peculiar condition known as painful heel is so often the result of gonorrheal infection that we suspect it in every instance. Baer, of Johns Hopkins, has demonstrated the gonococci in scrapings from the periosteum in quite a number of these cases.

Besides the os calcis, any of the other tarsal joints may be involved, and as the gonorrheal inflammation affects the periarticular more seriously than the articular tissues, we find that the structures involved in the affected foot are softened, boggy and relaxed during the acute stage of the trouble; consequently a degree of flat foot or weak foot usually accompanies gonorrheal arthritis. Another peculiarity of these cases is that the arthritis usually develops after the subsidence of the acute urethritis, often during the gleety stage.

The history of the case is usually that of a sudden development of pain about the arch of the foot, especially on walking, which grows steadily worse, until the patient becomes incapacitated. With this there often is a slight swelling and redness, and if a recent urethritis is confessed a diagnosis of gonorrheal rheumatism promptly can be made. But in many instances the arthritis occurs so long after the urethritis that both patient and physician fail to attach any causal relation to the latter, and especially in the cases which develop slowly and without acute inflammatory symptoms, as many do.

Later the foot resumes a practically normal appearence except with some pronation and flattening of the arch, but the patient still complains of great tenderness under the heel, corresponding to the tubercle of the os calcis. This pain is felt only when he walks, but examination reveals greater or less tenderness all about the os calcis and even of the scaphoid. A radiograph of the foot later in the disease, several months after the onset, often reveals bony exostoses at the seat of tenderness, usually under the os calcis and sometimes also at the point of attachment of the tendo Achillis.

MORTON'S METATARSALGIA.

This is a cramp-like, exceedingly painful affection of one or more of the metatarsophalangeal joints. It occurs more frequently in adults, and in women more often than in men. The pain comes on suddenly, and almost invariably when the patient has his shoes on, and it is described as cramplike and excruciating, often radiating along the foot and up the leg. The patient has to sit down at once and remove the shoe and rub and squeeze the front of the foot and work the toes, which usually gives relief. The attacks may occur only at long intervals, or may be so frequent as to disable the patient. The trouble is caused by the flattening of the anterior or transverse arch of the foot when compressed by the shoe so that the ball has not room to spread (analogous to the pain produced by squeezing the metacarpophalangeal joints when relaxed). The third and fourth joints are most often the seat of the pain.

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ON THE ASSAY OF BELLADONNA PLASTER AND EXTRACT OF BELLADONNA.*

BY A. H. CLARK.

In attempting to assay belladonna plaster of commerce, following strictly the directions of the U. S. P., I met with serious difficulties, and found that certain modifications of the process laid down there would greatly facilitate the work of assay and bring about more uniform results.

In view of the coming revision of the Pharmacopoeia, I offer these criticisms and suggestions in the hope that they will aid in working out a more satisfactory assay method than that now official.

Before entering on the discussion of these points I wish to say that the method of the U. S. P. was tried upon plasters prepared by myself from start to finish, belladonna extract, lead plaster and all, and to my surprise I found that the method could not be applied. The lead plaster dissolves in the chloroform, and some of it, at least, remains until the sulphuric acid is added in the shaking out of the alkaloid, and is then decomposed, the fatty acids separating and floating on top or partly emulsifying, and the lead precipitating as lead sulphate, all of which results in a mixture from which it is practically impossible to separate the acid solu-

*Read before the Section on Scientific Papers of the American Pharmaceutical Association at the meeting held in Richmond, Va., May 3-7, 1910.

tion. There being no lead plaster in the commercial article, these objections do not hold good.

The first objection to the U. S. P. process I found to be in the directions to add the plaster to a suitable beaker containing 25 Cc. chloroform and 3 Cc. ammonia water. When this is done the ammonia water is immediately absorbed, in part, at least, by the cloth of the plaster, and renders the subsequent removal of the plaster extremely difficult, a greatly increased quantity of chloroform being necessary to complete the washing, and even then the cloth is highly colored, and contains quite a large amount of the plaster.

If the directions to continue the washings with chloroform, adding 1 Cc. ammonia water, are followed, 4 Cc. ammonia water will be carried into the separator. This amount of ammonia water will require about 23 Cc. of normal sulphuric acid to neutralize it. It is obvious, then, that there will be required of the mixture directed (normal sulphuric acid 40 Cc. and water 60 Cc.) about 60 Dc. before the ammonia water is neutralized. One might extract with 20, 10, 10, etc., Cc. of the mixture, test the fourth or even the fifth extraction as directed with Mayer's solution, and find no alkaloid; not, however, because it was all extracted in the first portions, but because the solution is still alkaline.

The directions to test with Mayer's reagent are objectionable because of the alcohol which necessarily is carried along in the extraction, and which inhibits the delicacy of the test. This objection holds good with Wagner's reagent, also; but I prefer the latter, as it seems to me, under the circumstances, to be more sensitive.

The remaining directions of the U. S. P. seem to be very satisfactory.

To overcome the directions mentioned above I have adopted the following procedure:

Take about 10 Gm. of the plaster (one commercial plaster weighs this); after removal of the thin gauze from the face of the plaster, as well as the large protecting sheet from the back, cut it into four equal parts, and these again

into strips about one-quarter inch wide. Place it in an Erlenmeyer flask of about 100 Cc capacity, which is fitted with a good cork. Add 25 Cc. chloroform and shake gently for two or three minutes. Decant the chloroform solution into a second Erlenmeyer flask of about 250 Cc. capacity, fitted with a good cork. Repeat the washing of the cloth with another portion of chloroform of 25 Cc. and decant to the large flask as before. Continue the extraction of the cloth with portions of chloroform of 10 Cc. each until 100 Cc. in all have been used. To 80 Cc. of alcohol add 2 Cc. ammonia water, and wash the cloth with this mixture in portions of 10 Cc. each, adding the washings to the large flask each time and shaking well after each addition. Allow the flask to stand a few minutes, and decant the clear liquid to a separator of 250 Cc. capacity, and wash the flask and precipitated rubber with several portions of alcohol, using in all about 15 Cc. To the separator add 20 Cc. normal sulphuric acid and shake thoroughly. After complete separation draw the lower chloroformic layer into a beaker and filter the acid liquid through a small plug of cotton into a second separator of about 150 Cc. capacity. Return the chloroform solution to the first separator, repeat the shaking out with a mixture of 5 Cc. normal sulphuric acid and 10 Cc. water, collecting the acid liquid in the second separator as before. Repeat the extraction in the same manner until a portion of the acid liquid does not precipitate with Wagner's reagent, even on standing ten minutes. Render the acid liquid in the second separator alkaline with ammonia water and extract the alkaloids with four successive portions of chloroform of 25, 15, 10, 10 Cc. each, filtering each portion through a small plug of cotton into a beaker. Evaporate the chloroform by the aid of a gentle heat, and to the residue add a slight excess tenth-normal sulphuric acid (from 2 to 2.5 Cc.), noting the exact amount. To the residue add 10 drops chloroform, and after all has dissolved expel the chloroform by aid of a gentle heat. Add 5 drops cochineal T. S. and determine the excess of acid with fiftieth-normal potassium hydroxide V. S.

Divide the Cc. of fiftieth-normal potassium hydroxide V. S. by 5, subtract this quotient from the Cc. tenth-normal acid added, multiply the difference by 0.0287 and divide this product by the weight of plaster removed from the cloth. The quotient multiplied by 100 gives the per cent. mydriatic alkaloids in the plaster.

After washing the cloth as directed it is placed in a tared weighing bottle and dried at 100 deg. C., and its weight subtracted from the original weight taken. The remainder is the weight of plaster on the cloth.

This procedure gives a cloth that is perfectly white and weighs an amount appreciably less than when treated by the U. S. P. method. The weight of the cloth varies but little, twenty-five recent assays giving an average weight of 2.997 Gm., the highest weight being 3.0560 and the lowest being 2.9083 Gm. If a plaster weighs 10 Gm., a variation of 0.5000 Gm. in the weight of the cloth means a difference of about 8 per cent. in the amount of alkaloid found. This might be the cause of considerable error in the final report on the assay of belladonna plaster.

BELLADONNA EXTRACT.

In the assay of extract of belladonna the directions of the U. S. P. to dissolve the extract in a mixture of alcohol, water, ammonia water and chloroform, if followed literally, result in a very bad mixture. The chloroform being heavier than the other liquids, settles to the bottom of the beaker and surrounds the extract, which it does not dissolve, and vigorous and long-continued stirring is necessary to bring the extract in contact with the water and alcohol mixture sufficiently to dissolve it. To overcome this objection I have proceeded as follows:

To the belladonna plaster contained in a suitable beaker add 15 Cc. of a mixture of alcohol and water, two to one by volume, and warm the mixture gently on a water bath, stirring until completely dissolved. Transfer the mixture to a separator and rinse the beaker with 10 Cc. of the alcohol and water mixture added in small portions at a time. Transfer

these washings to the separator and add also 2 Cc. ammonia water. The procedure from this on is the same as that directed in the U. S. P.

In commercial extract of belladonna root, and possibly of scopola root, it is convenient to increase the volume of the alcohol and water mixture in which the extract is dissolved, and also the volume of chloroform, to prevent the formation of troublesome emulsions.

STATEMENT OF THE ALUMNI EBERT SCHOLARSHIP FUND.

Having in mind Mr. Ebert's long and intimate connection with the school, dating almost from its establishment, and his never-failing sympathy with young men entering the pharmaceutical field, the Alumni Association of the University of Illinois School of Pharmacy (The Chicago College of Pharmacy) decided to establish a scholarship in the school to commemorate his life and work. This action was largely due to the encouragement of Mr. Henry S. Wellcome, an old friend of Mr. Ebert's, and at one time a student in the school. Mr. Wellcome contributed $100 to the fund, and later agreed to increase this amount to $1,000 on condition that the Alumni Association make every effort to raise a suitable amount. In addition there has been received in cash and pledges the sum of $631.18 from the following alumni and friends of Mr. Ebert: J. Elmer Arkins, G. A. Anderson, A. W. Baer, F. E. Blake, L. A. Becker, F. W. Benson, A. N. Banerjee, John Bakkers, H. F. Behrensmeyer, A. H. Clark, J. H. Christmann, H. G. Carlson, B. J. Chvala, Class of 1908, Class of 1909, Class of 1910, W. B. Day, L. A. Dickhut, Ehrlicher Bros., C. M. Ford, Fred Frauenhoff, E. N. Gathercoal, F. M. Goodman, Geo. J. J. Guerten, Harry W. Giese, C. S. N. Hallberg, Lotis L. Huston, J. A. Hellmuth, Wm. G. H. Hagemann, A. H. Heidbreder, Elmer W. Hadley, John George Howly, Edward Kremers, George J. Langheim, Louis Lehman, Fred J. Lyons, F. M. F. Meixner, Max Mendelssohn, Frank M. Mares, George Marti, Geo. P. Mills, L.

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SCHOOL OF DENTISTRY

DENTAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

BATAVIA, ILL., AUGUST 20TH, 1910.

DENTAL IDENTIFICATION—A CIVIC SERVICE.

By Bernard J. Cigrand, M. S., D. D. S.,
Professor Medical History—University of Illinois.

That the record which a dentist enters of the professional work done is of both dental as well as civic service, may seem strange, yet this article is intended to demonstrate that the practitioner who makes a record of his services does, aside from the professional phase, a most valuable service to the community.

It may not be generally known that the body of Dr. Joseph Warren of revolutionary fame was identified by a dentist, and through this aid it was possible for Massachusetts to accord this great patriot a lasting monument. In The Plexus of November, 1904, page 1191, I published the following: "The first instance when a skeleton was given personal identification by means of the dental conditions, as attested to by a dentist, occurred in this country something more than a century ago. The great patriot and hero, Paul Revere, an engraver by profession, devoted much time to the prosthetic division of dentistry. He constructed metal base dentures and was interested in carving and designing artificial teeth.

"When the remains of the patriot and soldier, Dr. Warren, were removed from Bunker Hill battle field to their present resting place it was Paul Revere who made the identification, recognizing the partial denture which he had constructed some years previous to the general's death and minutely describing his natural remaining teeth."

History shows that Paul Revere was a practicing dentist, and that he was recognized as such a practitioner by the

people of his time, and historians of late, after carefully inquiring into his varied career, classify him as a dentist. References abound in support of this declaration. In any event it was evidently the earliest dental identification of a body by a dentist, and the civil authorities so recognized the public, and in this instance not a dental, service.

In the Dental Summary of 1909, on page 775, Dr. H. J. Ambler, Cleveland, Ohio, writes: "General Warren was killed at the battle of Bunker Hill and his body was identified by Dr. Jerfries, an M. D., because one of his incisors was broken off obliquely in early life. Another says that his remains were recognized on account of a false tooth" (made by Paul Revere). According to this report Dr. Warren was identified by two professional practitioners, one the dentist who made the artificial substitute and the other his physician.

The Dr. Warren case was not the earliest identification in the history of America which depended on the recognition of the condition of the dental organs, as is well illustrated in the following article which occupied an entire page in the Inter Ocean of Chicago on Sunday August 16, 1908. In this article I gave a lengthy account of the remarkable identification of a distinguished Britisher, who had come to the colonies to serve in the military campaign against the French. The item, which is especially interesting to the dental profession, reads as follows:

"The Braddock battlefield was indeed the most direful sight ever witnessed in America. The fleeing British feared to return to bury the dead or care for the injured, while the French and Indians returned to the fort, disregarding the ceremonial of burial or even the mechanical task of placing earth over the decomposing bodies. The heat of the following days only hastened the disintegration, and the foul of the air vulturized undisturbed. Of the once grand army of Braddock, numbering 1,200. over 700 were thus left exposed to the animal life of the wilderness, and when the scenes of burial did take place, the task was but superficially accom-

plished, nearly three years after the date of the battle, by General Forbes, who with 8,000 men captured in 1758 Fort Du Quesne, which he then named Fort Pitt. Leaving some 200 men in the fort, he wended his way back to Philadelphia and marching over the old battle ground of Braddock, he performed, as he noted, a sacred duty by 'paying a last, though late, tribute to the memory of these dead. I had their bones, which lay bleaching on the ground, consigned to Mother Earth."

"Among the distinguished men who were killed in the Braddock rout was Sir Peter Halket, second in command of the Braddock forces. With General Forbes came the second Sir Peter Halket, a major in the campaign of 1758. He came to America primarily to ascertain the exact and sad fate of his father, a lingering hope haunting his soul that his noble father and his brother might be captives among the Indians, and he decided his visit to be both military and humane. Accordingly he, with a company of Pennsylvania riflemen under Captain West, brother of Benjamin West, famous painter, in company with a squad of Indians who were in that 'bloody afternoon' fight, set out to identify, if possible, the father and son. The Indians regarded the expedition of search with religious awe, and when they came to the field of battle and observed these hundreds of skeletons, many with heads dismembered, they made peculiar gestures, which translated into English told the party that wild beasts of the forest had devoured scores of these dead; and when they found skeletons lying across fallen trees the Indians said: 'Wounded, but died of hunger.'

"One of the Indian chiefs then told Halket that he remembered an officer who looked like Major Halket fell at a point where there was a strangely formed tree, which, if it stood still, he would have no difficulty in recognizing. Suddenly and with a shrill cry this Indian bounded among the trees and pointed out the old land mark of the battle. Beneath its leafy branches lay other skeletons, but no sign was evident to distinguish them from the other hundreds scat-

tered about. Quite bewildered what next to do, finding under a bed of dry leaves, two gaunt skeletons, one across the other, Sir Peter recollected that his father wore an artificial tooth, and forthwith the party carefully separated the bones and, to their surprise, found the jaw with that peculiar dental substitute. Whereupon, Sir Peter exclaimed: 'It is my father!' as he fell to the ground in a faint. The smaller skeleton was that of the faithful son, who evidently fought at his father's side, and when the former fell the lad remained, possibly mortally wounded, and drew himself upon his dead father's body where he died upon the breast of him above all else he loved. The party had all reached the same conclusion. Even the Indians, with tears in their eyes, saw the tragedy with the same clearness.

"A grave was dug and, wrapped in Sir Peter's Highland plaid, the two who in death were not divided, were interred in crucial form, amid a most solemn unceremonial rite. The Episcopal dirges, the rumbling of several musket balls and the quiet prayer must indeed have been a sacred scene in vine-covered, quiet and holy God's acre. A huge stone from the hillside was brought forth and located as the marker.

"Thus, remote from the dust of their ancestors, unnoted by tomb or monument, sleep the hundreds who laid down their lives for the onward march of liberty. Not all were consigned to the grave, and even in this late day the tillers of the soil plow up the bones of these sainted dead. Tokens of various description annually make their appearance at the spring plowing, and among the noteworthy finds was the watch charm of Colonel Washington, lost during the fiercely fought (battle) fight. The charm was a signet or seal."

The practioner little dreams of the importance of his record from the standpoint of the civic service; but if he is reminded that in our own country hundreds of people have been identified and by this means given over to the hands and care of the real relatives, rendering to these stricken relations an unusual and worthy service he would be more concerned in the definite and exact entries on his books of

not alone the work which he performs, but a record of the works of other dentists, and by this accurate record be of definite aid in identifying the remains of bodies which by no other means could be certified.

The great fire of the Iroquois Theatr, which with all its horrors and indescribable suspenses had an unusual comfort in the fact that hundreds of these unfortunates could not have a family burial, had it not been for the dental records which dentists supplied and unmistakably identified. By this civic service the parents, the relatives, the friends and in some few instances the community were permitted to claim the dead and render in their respective names the funeral services and accord to their graves the correct marker and monument. Little did the professional dentist think when he recorded the character of his work that he would some day come to the civic call of pronouncing the dead by the legal name, and have the state authorities receive his testimony as the final court of identification.

This stamps the services of a dentist in a higher and more important character than he had been conscious of attaining, and the result is that with a due and higher appreciation of his civic service he will be more anxious to make his entries accurate and, further, may receive a consideration at the hands of the authorities which he now does not command, because it is not generally known that his records are of value in this particular.

In criminal cases, too, the service of the dental record is playing a more important place than in days gone by. In fact, this phase of our service is being recognized as of a dual character in that both the murderer and his victim can be identified by the dental record. Possibly the most prominent case on the criminal records is that brought out in the trial of the murderer of Dr. George Parkman, a noted millionaire of Boston, by Professor John W. Webster of Harvard. This exciting and remarkable murder trial took place in 1849, and the attorneys were the ablest that the East afforded. The high position of both the victim and the

murderer, the outburst of natural surprise at so dastardly a crime, as well as the astonishing lack of direct evidence, make this one of the truly wonderful dental identifications. The remains of Dr. Parkham were indeed unsatisfactory from the standpoint of anatomical proof. The body had been practically cremated and only a few remains of the bones and something of the artificial teeth were found in the refuse. The case lasted for days and days, the testimony of direct examination covering nearly two weeks, and there were upwards of one hundred witnesses on the stand, all employed to make or to break circumstantial evidence. But in the entire history of American criminal records the importance of dental records does not exceed that brought out in this famous trial. Hundreds of hours had been taken in establishing the identity of the remains, and the public, as well as the jury, were exhausted in their anxiety to fathom the horror and to bring a direct testimony for the state. Finally his dentist was called to the stand, having previously been given the artificial dental substitutes as a basis of his testimony. The evidence of Dr. Cooley Keep, his dentist, set aside all the circumstantial evidence as to the identification of the remains by this short, decisive and conclusive sentence: "These are the teeth of Dr. George Parkman." This sentence led to the confession of the murderer, Profession J. W. Webster, and ended the most remarkable circumstantial evidence trial as based on dental identification which is found in the annals of our country.

Dr. Ottolenguie, of New York, also has contributed considerably to the general progress of dentistry, and has written me the following under date of April 14, 1910:

"I have written several novels and twenty or more short stories. G. P. Putman's Sons of this city have published for me in book form 'An Artist in Crime,' 'A Modern Wizard,' 'The Conflict of Evidence,' 'The Crime of the Century'; also a book of short stories under the title of 'Final Proof.' In this book the first story, entitled 'The Phoenix of Crime,' was really a novelette, covering over a hundred pages. In

it the identification of a dead body is accomplished even after cremation by examining the so-called ashes, collecting the teeth and registering on a dental chart those which were found to have cavities, as well as the roots of those still held together by partly destroyed bridgework. The idea came to me when I had occasion once to transfer the cremated remains of a friend from one urn to another, and I discovered all of the teeth practically intact except that the fillings had been melted out of the cavities; but the platinum framework of the bridgework had retained its form, the porcelain of the teeth being only slightly melted. Shortly after the publication of this story the body of a murdered girl was discovered in one of our suburban towns, and it was at first supposed to be a girl who disappeared some ten days previously. A doubt, however, arose and her identification was established by making a dental chart of her teeth, as suggested in the story.

"My novel, 'An Artist in Crime,' in addition to being published in this country, was published in England, was published in an English edition in Germany, and consequently was translated and published in a German edition. This German version was subsequently published in one of the German papers in New York city. The story was translated into French and published in Paris.

"In my novel, 'A Modern Wizard,' there is a fairly complete account of a murder trial, in the course of which the prosecuting attorney explains the relative value of circumstantial evidence as compared with material evidence. A legal writer in Colorado did me the honor of quoting my definition of circumstantial evidence into a text book on criminal law. On another occasion, in an important trial in Philadelphia, the district attorney read this entire passage from my book to the jury."

History abounds with similar cases, where every vestage and every vascular and oseous tissue was destroyed either by fire or by the process of decay, yet the dental organs were in perfect preservation. In some instances, all human

material was disintegrated, and even the teeth destroyed by the elements, and dental substitutes were still in existence and lead to the identification.

All this goes to demonstrate the important function the dental practitioner plays in not alone his strictly professional way, but in the civic or popular service attitude.

If a proper appreciation were accorded to the procedures of dental indentification, not only would we have a mere record of the dental services we perform, but we would be impelled, if paid, to enter a record of the other dental conditions as relates to missing teeth and the dental work of other operators. To this we would add a date and insert the card in an index for ready reference. This important feature of dental identification might, and with no great task, be improved by filing away a model of both the upper and lower maxillary condition, and thus have an unmistakable record of the individual. This form of registry would be essential for men who are about to undertake some hazardous task where life is quite likely to be subjected to the severities, such as in war or exploration.

When you stand before the government monuments on the fields of battle which since have become the national cemeteries and observe the markers, huge and small, designated, "To the Unknown Dead," the thought comes, why this impossibility of identification? The answer from the government came: "Because there was nothing upon which to found identification when the government finally determined regular burial."

Here, then comes the true and civic service of the dentist. Why should not all the generals, the under officers, be subjected to some dental surgeon or dental operator, either prosthetic or operative practitioner, and have a correct chart made of his dental organs, and also a model in plaster, all of which could be filed away in the surgeon general's office or the divisional general's headquarters. A similar chart of the soldiers in both the regular and the state military divisions could be enforced. The value of such a

procedure is far beyond the estimate of any person's imagination. The work should be quickly and accurately accomplished, and the dental practitioner in the army would be of invaluable aid when it came to identifying the dead general or his soldier boys. This work belongs to us. We can inaugurate much in the field of civics, and it is not for us to wait until the public comes to us and urges these things, for they are not familar with our capacities and are not in a position to contemplate our fields of operation.

In countless other ways would a dental record be of service in a civic way. People who are about to journey across the seas and be subjected to varied and uncertain dangerous conditions and circumstances would be wise to have such a record made, the value of which would possibly make it certain for them to be buried in a family lot.

The horrors at San Francisco, the theater calamities of the world and the volcanic eruptions—all these great worldly disturbances bring the subject of dental identification to the surface. Let us give the matter some thought from this phase, since the dental side has received considerable attention in the past.—American Dental Journal.

A UNITED STATES DEPARTMENT OF HEALTH.

For well-nigh a score of years past have efforts been making within our profession for a national institution which shall have for its purpose the conservation of the public health. There is now before Congress an excellent bill providing for the establishment of a United States Department of Health, Senator Owen of Oklahoma having been its introducer. And many medical bodies are active in its behalf, Recently the Academy of Medicine of New York City has joined the campaign; and its Section on Public Health is particularly zealous in the movement.

Senator Owen's bill provides for the appointment of a Secretary of Public Health, who shall be a member of the President's Cabinet, with a yearly salary of $12,000. It is

aimed to combine all the existing departments and bureaus (except the Department of War and that of the Navy), affecting the medical, surgical, biological or sanitary service. The army and navy medical men are not included in this bill because "It would probably be impossible (states Senator Owen) to pass a bill with the hostile opposition of those who are connected with the medical service of the army and navy; moreover, the Bureaus of Health in the War and Navy Departments, being particularly attendant upon the military arm of the Government, may be excluded from a Department of Health, although I do not think they ought to be."

In behalf of this movement the Committee of One Hundred of the American Association for the Advancement of Science, which has been extremely active, publishes reasons why we should have a national Department of Health: To stop the spread of typhoid fever through drinikng sewage-polluted water of inter-State streams. To enforce adequate quarantine regulatious, so as to keep plague and similar pestilences out of our country. To supervise inter-State common carriers in so far as without supervision they menace the health of the traveling public. To have a central organization of such dignity and importance that State and municipal health departments will seek its co-operation. To influence State and municipal health departments to enact uniform health legislation. To act as a clearing house of State and local health regulations. To draw up a model scheme of sanitary legislation for the assistance of State and municipal health officers. To gather accurate data on all questions of sanitation throughout the United States. To lower the death rate.

This last factor, the reduction of the death rate and its complement, the adding to the average of human life in this country, are considerations most important among those anxious for the conservation of the nation's assets. To this effect we may recall here the report on "National Vitality," which Professor Irving Fisher the President of the Commit-

tee of One Hundred, made to the National Conservation Commission. In this we find that "at any moment one chooses to take, there are three million people seriously ill in these United States, half of which illness is preventable." 150,000 Americans die annually of tuberculosis, three-fourths of whom need not die if proper attention were given them and if their environment were reasonably salutary. Dr. Fisher is convinced that fifteen years could at once be added to the average life of an American by applying closely the science of preventable diseases. More that half the additional life would come from the prevention of tuberculosis, typhoid and such other diseases, the prevention of which could be accomplished by purer air, water and milk. If we calculate an individual's yearly income as $700 and estimate each life lost as worth $1,700, the nation could gain $1,500,000,000 every year by the development and enforcement of adequate prophylaxis.

It were fatuous indeed to expect such adequate prophylaxis upon any other basis than the establishment of a federal institution for preventing human disease and for the conservation of the health of our people. At present indeed, the Federal agencies that are supposed to guard the health of ninety millions of people are in a hopelessly chaotic condition. Our human diseases are studied in the Department of Agriculture, the secretary of which supervises the chemical purity of human foods and drugs. The Department of Justice has charge of the physicians and oculists employed in the United States penitentiaries; the Department of State controls the International Sanitary Bureau and the subsidized foreign hospitals; the Public Health and Marine Hospital Service is in the Treasury Department; the hospitals of the Immigration Bureau are in the Department of Commerce and labor; the Department of the Interior supervises physicians of the Indian Service, those of the Alaskan schools, those of the Reclamation Bureau, the hospital staffs of the United States National homes, and the Medical Examiners of the Pension Bureau

and of the Government Bureau. Here is a state of things in which much waste and duplication of effort is inevitable. It is nonsense to declare we have no need of a Federal consideration of the prevention and cure of human diseases; and for the simple reason that for many years past such consideration has been found imperative, a fact demonstrated by the many Federal agencies here enumerated. The merest common sense now demands that all these agencies should be grouped together into one Department (not one Bureau); this, as is well observed by our lay namesake, we shall "eliminate excrescences, reduce cost and make for efficiency and real service."

THE PLEXUS.

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MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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SCHOOL NOTES.

IN MEMORIAM.

The venerable mother of Dean Quine died on the 4th inst., in the home of her son, at the advanced age of 86 years. Mrs. Margaret (Kinley) Quine was born in the Isle of Man in 1824, and soon after her marriage came to this country with husband and children, and settled in Chicago in 1853, in which city she has lived continuously till her death. She was a woman of rugged character, of which the most conspicuous features were a stern, uncompromising and even

aggressive maintenance of the highest moral standards, according to her lights, and a courage that never quailed before the consequences of such acts. Her father, Mr. Kinley, had been a Wesleyan preacher in the Isle of Man, and she herself carried through life a devout spirit. She died in the arms of her daughter, Mrs. W. H. Duffield, during the temporary absence from the city of Dr. Quine, and was buried in the family lot in Rosehill Cemetery.

Dr. G. E. Forbin, '05, Menasha, Wis., visited in the city and called on his friends at the college during the first week in August.

Miss Heelan is enjoying a vacation of three weeks in Harbor Springs, Mich.

Superintendent Brown returned Aug. 20th from Mackinaw, Mich., where he spent a two weeks' vacation.

Miss Arnenson left Aug. 20th for Madison, Wis., where she spends a vacation of two weeks.

SENIOR NOTES.

There has sprung up an intense rivalry for the hand of Miss Loretta Katherine Maher. The rivals are "Sullie," "Tommie" and "Earlie," as far as can be noticed. They hurry for lecture seats beside Miss Maher, and argue as to who has the most right for the honored seat. At present "Sullie" has the inside track, with "Tommie" a close second.

A prize has been offered by Dr. Corbus for the best written essay upon the subject of "Pathology and Treatment of the Urethritis of Specific and Non-Specific Origin; Chancre and Chancroid." The prize is to be a pocket case. The essays have to be written by each member of the class, and the prize is held out as an inducement for better and more thoroughly written essays.

The obstetrical course for the senior year is now in conjunction with the Northwestern students at the Chicago Lying-In Hospital, at the corner of Maxwell and Newbury.

Each student is required to make a large number of post-mortem calls, keeping complete histories and records of each case. Opportunities are also offered to several students at different times for special work.

Thomas J. Riach has been sick with measles, and was quarantined for over two weeks.

Earl Caddick and William F. Kistinger also have been on the sick list for a few days.

Dr. William F. Bernard, who was to be our instructor in genito-urinary diseases for this summer, resigned about June 15, and Dr. B. C. Corbus has taken his place. Dr. Corbus is an alumnus of this college, graduating in '01. He has been connected with the dispensary work of the college since February, 1910, as clinical instructor in genito-urinary diseases.

JUNIOR NOTES.

Raub (at dermatology class): Hi! Professor! Can a man have more than one disease of the skin at the same time? Prof. H.: Why, of course he can. We had a man the other day at the clinic who had a chancre of the penis, pediculosis, tinica trichophytina. Raub: He was sick, wasn't he?

Raub (at dermatology class): Hi! Professor!! Can a man be cured of syphilis by having small-pox?

FAITH IN DRUGS.

"The courage to try to do a thing before you know how, the patience to keep on trying after you have found out that you didn't know how, and the perseverance to renew the trial as many times as necessary until you do know how, are the three conditions of the acquisition of physical skill, mental power, moral virtue or personal excellence."—Hyde.

We do not know where this quotation is more applicable than to our friends of the old school who have been trying

for years to work out some therapeutic salvation. They have many good men in the ranks; men who are broad-minded, honest and sincere, and standing foremost among them we find Drs. Abbott and Waugh. We remember distinctly a few years ago, when we were closely associated professionally and socially with a practitioner of the old school—one of the best fellows that ever lived—who said to us that he had absolutely no faith in the use of drugs, and while he used them for their moral effect, he gave nature the credit for restoring people to health. Since that time he has been using Abbott's alkaloids, and is now one of the most enthusiastic prescribers that one would wish to meet—and he is successful. He is simply one of the many of the old school who have been so instructed in the use of drugs that they get results and have faith in them. Dr. Dale M. King, in The Medical Counselor.

"THE LAXATIVE DE LUXE."

The Abbot Alkaloidal Company, of Chicago, Ill., claim for Thalosen that it is the best phenolphthalein-laxative produced in this country or abroad. This is a big contention, but there are a host of medical men who stand ready to uphold it. If any of our readers are unacquainted with it we recommend that they take the time to write for the complimentary trial package of the tablets offered in current advertisemets.

Thalosen appears to be an out-of-the-ordinary laxative and the samples will prove a revelation to those who know phenolphthalein only in the commonplace forms in which it has been exploited for several months past.

Each tablet contains one grain of phenolphthalein with senna and sulphur in correct proportions, in an aromatic base. For convenience it is segmented into quarter doses. Whether it is because a refined grade of the drug is used in its making or because of the presence of synergistic drugs we do not know, but Thalosen is certainly more satisfactory in its action than the phenolphthalein-laxatives that

have come from other sources. In this combination one grain of phenolphthalein seems to go farther and operate more completely and regularly than twice the dose of this drug given alone or in other combinations.

The tablets are edible as candy; for children and older people who demand palatability it is the evacuant of choice. One physician who apparently cannot say enough for it recently described Thalosen as "the laxative de luxe," and we notice that the manufacturers are very properly making use of this apt title in their printed matter.

CLINICAL REPORTS ON CHROMIUM SULPHATE.

I have used Chromium Sulphate (Abbott) in one case of chronic nephritis with very gratifying results.

Atchison, Kans. DR. GEO. BAUDRY.

GOOD RESULTS IN GOITER.

I have used Chromium Sulphate (Abbott) for goitre and prostatic trouble and it has given complete satisfaction. I think this is one of the best drugs for troubles of this character that we have. DR. CHARLES M. STEMEN.

Kansas City, Kans.

CROMIUM SULPHATE IN SCIATICA.

In the past few months I have cured three cases of chronic sciatica with Chromium Sulphate (Abbott). One of these had been confined to the house for seven or eight months. She was so much improved after three weeks that she could get around the house, and is apparently well.

Winthrop, Iowa. DR. M. L. SHINE.

Few of our readers realize that baby incubators and invalid beds are procurable without necessitating purchasing them outright and can be rented by the day, week or month from Sharp & Smith of Chicago. We are advised they can be shipped immediately upon receipt of mail, telephone or telegraph order. Prices and terms will be furnished by this firm upon application to them.

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LISTER AND HIS WORK.

By Charles M. Steele, M. D., Chicago.

To conceive a great idea in youth, to give it practical value by the efforts of middle life, and, in old age, after opposition and criticism, to see it adopted the world over, is perhaps the most satisfying success that can come to any man. And when the idea itself has been so big, so far-reaching that it has made possible all modern surgery, with its immense saving of life and immeasurable relief of suffering, its originator may well be called one of humanity's greatest benefactors.

Joseph Lister, like so many pre-eminent men both in science and in other lines of activity, has been a "man of one idea." Continually it was in his mind from the days when he was house surgeon in a London hospital. To it he gave the best thought of the active years of his life. His idea was this—to make open wounds, whether surgical or accidental, heal in the same simple fashion as subcutaneous fractures. The working out of this concept led Lister deeply into physiology, pathology and bacteriology, but always this one great object was the goal of his experimental studies.

It seemed to Lister that in the healing of subcutaneous injuries—without pain, suppuration or constitutional disturbance—nature had furnished an example of the way all wounds should heal. It was man's problem to find out how

to bring about this beneficent result. Right here his attitude was in marked contrast with that of many of his colleagues, who looked upon the prevalence of septic diseases, so common at the time, with a gloomy fatalism that despaired of prevention.

Today freedom from infection is so much the rule, and "wound healed per primam" so common a record in our surgical histories, that it is perhaps difficult for the younger men, and particularly students, trained from the beginning in aseptic methods, to realize the condition of things in surgery when Lister's first paper on antisepsis appeared in 1867. Indeed, so slow was the acceptance of Listerism at first, and so gradual its spread, that many men still in active practice know from personal experience the days when rampant septic disease so frequently rendered unavailing the skill of the cleverest surgeon.

CONDITION OF SURGERY BEFORE LISTERISM.

Rightly to appreciate the significance of Joseph Lister's work and its influence upon the development of surgery one must briefly review the state of the surgical art about the middle of the last century. The introduction of ether and chloroform anesthesia in 1846 and 1847, by widening the scope of surgery, increased the number and gravity of surgical wounds, but led to no more reliable method of healing. No matter how skillfully the operation might be performed, the outcome in surgical cases was always in doubt. Inflammation and suppuration almost invariably followed both accidental and surgical wounds. "It was only the happy few," writes Sir Hector Cameron, a former house surgeon to Lister, "and very few they were—which healed by first intention, showing no sign either of local inflammation or constitutional disturbance. * * * Large numbers of patients were snatched off to the grave by destructive processes in the wounds themselves, or by various forms of blood poisoning and contamination of the system for which the condition of the wounds was responsible" (1.) Even those who survived

were kept in pain and discomfort for weeks, or even months, as a result of these secondary complications.

Pirogoff, writing of this period, said that suppuration, purulent œdema, erysipelas, tetanus, and hospital gangrene stalked "Schritt und Tritt" with surgery (2). In major operations the average mortality in the practice of various surgeons was from 30 to 50 per cent. Lister's amputation mortality in the years 1864 and 1866 was 45 per cent.—almost all due to infection (3). In Volkmann's hospital in 1871 deaths from pyæmia and septicæmia were so numerous that he was about to close the building, when the adoption of Listerian methods made such a course unnecessary. Von Nussbaum had a similar experience at the Allgemeines Krankenhaus in Munich. Hospital gangrene attacked 80 per cent. of all wounds and ulcers in his wards (4), and the city authorities decided to tear down the building. Von Nussbaum, however, sent his assistant, Lindpaintner, to Edinburgh to learn Listerian methods, and with their introduction the scourge disappeared.

To the surgeon of today these terrible experiences are not surprising when he remembers the surgical methods formerly in vogue. The same table was often used for operations and autopsies. In operations hardly any attention was paid to cleansing the skin of the patient. Surgeons scrubbed up after the work was over—not before (5). Silk ligatures were used coated with wax, and generally, for convenience, carried in the buttonhole of the surgeon's assistant. Instruments after an operation were merely washed in water, and readily carried infection. Sponges used for bathing wounds and ulcers were only wrung out of water before being used on the next patient. Suppuration was expected, and union by first intention was not encouraged.

In this state of affairs the dread of infectious diseases was an effective bar to surgical progress. Operations were limited to those necessary to save life; surgical intervention merely for comfort or to make life more useful was not thought of on account of the great risk. Abdominal surgery

—as we understand the term—did not exist; nor operations for malignant growths, tuberculosis, or for exploration. Indeed, it may well be said that "modern surgery dates from the introduction of Listerian methods" (6).

LISTER WELL PREPARED FOR HIS WORK.

Such was the condition of things in surgery when Joseph Lister came to Glasgow in 1860 to take up his duties as professor of surgery in the university. Here he was to remain for nine years, and in that time to work out the fundamental principles of the Listerian technic. Lister came to his task with exceptional equipment. He combined an investigative mind, inherited from his scientific father, and early stimulated by such men as Sharpey, the physiologist, and Graham, the chemist, with a practical training and broad clinical experience acquired under Syme, the great surgeon of Edinburgh.

Born in 1827 at Upton, in Essex, England, Lister received his early education at a private school for Friends. His father, Joseph Jackson Lister, a wine merchant by trade, devoted his leisure time to scientific work, and was himself a member of the Royal Society. He was the first to solve the problem of constructing achromatic lenses. Of his father Lister wrote: "He raised the microscope from a scientific toy to the powerful instrument of investigation which it later became" (7).

Lister took his bachelor's degree in arts at the University of London in 1847, and his medical degree from University College, London, five years later. In the same year, 1852, he became a fellow of the Royal College of Surgeons. He then entered the University College Hospital, where he served first as house physician, and later as a house surgeon under Sir John Erichson.

On leaving the hospital Lister went to Edinburgh with a letter of introduction to Syme from Sharpey. His plan was to attend Syme's clinic for six weeks and then return to and practice surgery in London. Instead he remained in

Scotland twenty-three years. "He went to Scotland an obscure student; he returned to England one of the lights of the surgical world" (7).

Lister's coming to Edinburgh, at the age of 27, marks the beginning of the first four periods into which his active life naturally divides. They are as follows:

First: 1854–1860. Youthful period at Edinburgh under Syme.

Second: 1860–1869. Regius Professor of Surgery at Glasgow.

Third: 1869–1877. Professor of Clinical Surgery at Edinburgh.

Fourth: 1877–1892. Professor of Clinical Surgery at King's College, London.

In 1893 he retired from active practice, being appointed emeritus professor of clinical surgery in King's College and consulting surgeon to the hospital. Since then his time has been occupied with scientific work and with duties in connection with many learned societies. He is still a frequent contributor to the medical journals, his latest publication being a note on sulpho-chromic catgut in the Lancet of January 23, 1909 (9).

LISTER'S EARLY SCIENTIFIC INVESTIGATIONS.

All his life Lister has been an investigator, a follower of Harvey's precept—"to search and study out the secrets of nature by experiment." As early as 1853, during his London hospital days, he published the results of his first research work. It was a study of "The Contractile Tissue of the Iris" (10). This was followed by papers on "The Muscular Tissue of the Skin" (11) and "The Flow of Lacteal Fluid in the Mesentery of the Mouse" (12).

From these histological and physiological studies Lister turned his attention to pathology. While house surgeon under Erichson he became interested in studying the process of inflammation. This subject and the allied topic of wound healing occupied him during all of his subsequent active years and led to his great discoveries in antisepsis. Most of

Lister's early work on inflammation was done on the frogs' web. By him "the phenomenon of stasis and the vascular reactions, immediate and subsequent, following the action of irritants of all classes, were, for the first time, accurately described" (12). The results of these studies, which he communicated to the Royal Society in 1857, have formed "the basis of all subsequent discussions," and the conclusions which he expressed are still accepted today. Lister believed that stasis was due to the direct action of the irritant on the blood cells, causing "adhesiveness of the corpuscles," and that the vascular reaction was produced reflexly by the central nervous system (13). This directed his attention to the subject of vasemotor control, and he published an important paper along this line in 1857 (14). This was followed by a study of "The Pigmentary System of the Frog (15), a subject which came under his notice while studying inflammation.

STUDIES ON COAGULATION OF THE BLOOD.

The coagulation of the blood in an inflamed artery led Lister to investigate the cause of coagulation. He felt that this was of "peculiar interest" to the surgeon, on account of the part which it played in inflammatory exudation, the healing of wounds and the stopping of hæmorrhage from cut arteries. While he failed to explain the cause of coagulation—a phenomenon which we are only now beginning to understand—Lister discovered a number of most important facts about this subject, which have been of service to other investigators, and which aided him materially in his work in preventing putrefaction of the discharges of wounds. He overthrew Richardson's theory that coagulation was due to the escape of Ammonia from the blood. His interest in coagulation extended over a long period and he made this the subject of his Croonian Lecture (16) delivered before the Royal Society in 1863 and also of his oration (17) delivered before the Medical Society of London in 1891.

While carrying on these researches at Edinburgh, Lis-

ter was occupied with his duties as a member of the Surgical staff of the Royal Infirmary. During his services as resident assistant to Syme, who early conceived a very high opinion of his scientific spirit, he was appointed extra-mural lecturer on surgery, in 1855. A year later he became assistant surgeon to the Infirmary and assistant in Syme's private practice.

Always on the lookout for means of diminishing the terrible scourge of septic diseases, Lister was one of the first to use the silver wire sutures devised by Marion Sims. He introduced this method to Syme and it was forthwith adopted in the Edinburgh Royal Infirmary.

It seemed clear to Lister that the difference in the effects of wire and silk was due to the latter's imbibing blood and serum which, "undergoing decomposition in the wound, grew more irritating the longer the process continued." The metal gave no hold for these fluids. From these and other considerations," says Lister, "I taught my class at that time that the decomposition of the organic liquids was the essential cause of suppuration." (13.) Here was a new point of view, the seed of the idea from which the antiseptic principle was to germinate.

LISTER'S WORK IN GLASGOW.

With these ideas in mind and with a growing interest in the subject of inflammation, Lister in 1860 came to Glasgow as Regius professor of surgery, beginning the second period of his life—the period of his great discovery. In the old Royal Infirmary he was in charge of a large number of beds, and a great many accident cases came under his care. Septic diseases ran riot. "The gravity and constant prevalence of these diseases in his wards and the distressing mortality in consequence—even in the most promising cases—so disappointed, pained and distressed him that his thoughts became more and more turned to the question of the cause and prevention of these disasters." (18.)

Cameron, who was at that time a dresser in his wards,

writes: "The effect of such experiences (five deaths and several other cases of pyaemia in his wards in one week) on the mind of one who always felt the greatest sympathy with his patients and was imbued with the greatest love for his profession can well be imagined. He was often greatly depressed after making a hospital visit and I have frequently heard him declare that it was a doubtful privilege to be a hospital surgeon." (1).

Not satisfied with the current view that sepsis was an inevitable accompaniment of wounds or that "healthy," "laudable" suppuration was a thing to be desired Lister tried many methods for preventing these troubles. He insisted on scrupulous cleanliness and thorough washing of the hands at operations and dressings—and the piles of clean towels in his wards which these frequent ablutions necessitated were the subject of good natured jests on the part of his colleagues. He tried various deodorant lotions. But all his efforts were unavailing. "Every wound," says Cameron, "discharged pus, and putrefactive changes occured in the discharges of all." (1.)

Lister had recognized some years before that inflammation and suppuration after operations and injuries were due to the local action of irritating materials formed in the discharges of wounds by putrefactive fermentation. He did not accept the prevalent idea that putrefaction was due to the oxygen of the air. But what was the nature of the "materies morbi" in the putrefactive discharges he could not determine. At that time Lister believed that the air was the vehicle by which the infective agent—whatever it might be entered the wound, but he recognized increasingly that all foreign substances—skin, sponges, instruments, clothing and ligatures were "carriers of infection."

While he was speculating on these matters, Pasteur's papers on fermentation and spontaneous generation were brought to his notice. The discoveries of the great Frenchman came as a revelation to Lister. They supplied the needed link in the chain of reasoning which was leading him to the

solution of the problem. The oxygen theory was swept away and Lister realized that "it is not to the oxygen or to any of its gaseous constituents that the air owes this property (of causing putrefaction) but to minute particles suspended in it." (19.)

Lister now saw clearly set before him the problem that he was to solve. His task was not to exclude gases but living organic particles. He reasoned thus: Inflammation and septic diseases after wounds are due to the putrefaction of discharges. This putrefaction is in turn due to the entrance of living micro-organisms. Now if I can keep out or arrest the growth of the organisms without damaging the tissues, an open wound will heal like a subcutaneous injury. This simple, logical argument is the basic principle of the Listerian treatment of wounds.

FIRST APPLICATION OF LISTERIAN TECHNIC.

With all his enthusiastic energy Lister set to work to apply this principle to wound treatment. He realized that to exclude, filter, or heat the air about a wound (Pasteur's three methods of sterilization) was impracticable and indeed useless, since the organisms were on all surrounding objects. He turned therefore to chemical substances with germicidal properties. The success of an experiment at Carlisle in disinfecting sewage, deodorizing pastures and killing cattle parasites by the use of German creosote—containing carbolic acid—impressed Lister with the value of this latter agent as an antiseptic. And in 1865 on August 12—a day memorable in surgical annals—he tried this new method on a case of compound fracture "with results that amply justified his hypothesis." (20.)

The antiseptic technic employed at this operation and for some time subsequently we should consider today rather heroic. The wound was wiped out with undiluted carbolic acid. After the operation it was sealed with lint soaked in carbolic acid, and covered with block tin to prevent evaporation.

The new method was rapidly extended to all varieties of

surgical lesions, septic processes, operative wounds, and amputation incisions. The beneficial effect of the antiseptic treatment on Lister's wards was immediately apparent. "From being some of the most unhealthy in the kingdom," he says, "they became the healthiest in the world, while other wards, separated from mine by only a passage a few feet broad, where former modes of treatment were for a time continued, retained their former insalubrity." (21.)

LISTER INTRODUCES ABSORBABLE LIGATURE.

Lister early recognized that to obtain the full advantage of antiseptic surgery he must invent some new kind of ligature. The practice of the time was to use waxed purse silk. The ends of the threads were left hanging out of the wound, forming a "suppurating track," until the ligated ends of the blood vessels sloughed off and the ligatures came away. (1.) The wound, of course, could not close until the ligatures were freed and the danger of secondary hæmorrhage when they came out was very great.

While studying coagulation, in 1867, Lister had obtained evidence that an uninfected blood clot could undergo organization. He also made the observation—which was new at the time—that a piece of bone in a clean compound fracture wound was absorbed or, in his own phrase, "nibbled" by the encroaching granulation tissue—a term suggestive to the modern mind of Metchnikoff's later theory of phagocytosis. "This," says he, "suggested the idea of using threads of dead animal tissue for tying blood vessels, and this was realized by the use of catgut," (21) which had been tried and abandoned before the days of antisepsis. In December 1868, he tied the carotid artery of a calf with a catgut ligature. Killing the animal a month later he found the ligature replaced by a band of living tissue. The catgut ligature was therefore adopted and soon became widely used. Lister continued to give much thought to discovering the best methods of preparing the catgut in order to secure strength, pliability, security of the knot and prompt absorption. He has written a number of papers on this subject. (9.)

IMPROVEMENTS IN ANTISEPTIC TECHNIC.

Following the publication of Lister's first paper on antisepsis in 1867, (22) he entered upon a period of the greatest activity. The general attitude toward his announcement, at first merely cool, turned later to active opposition on the part of many. But Lister, unlike Pasteur, was never a controversialist. While others criticized—often through ignorance or misunderstanding—he simply kept on working and published his results when they were ripe. His first paper had established the principle of antiseptic surgery. Subsequent work was simply a matter of perfecting details with a view of simplifying the cumbrous method of applying the principle.

This task occupied his time and thought during all of the last two periods of his life—from 1869 to 1877, in Edinburgh, and from 1877 to 1892 in London. In nothing is the genius of Lister better illustrated than in the resourcefulness with which during these years he adapted his principle to meet new conditions.

Application of undiluted acid to the wound was followed by the use of a carbolic putty dressing. Then came the carbolized lac plaster. Sheet tin as a covering was used and abandoned. The absorbent gauze dressing made its appearance. The carbolic spray was adopted and discarded. Sterile cotton wool was introduced as an outer dressing. Various new antiseptics, including the mercury salts, were tried in an effort to find something less irritating than carbolic acid.

Lister was probably the first to use dressings sterilized by heat without antiseptic treatment. He did this while professor of surgery at Edinburgh, using cotton as a dressing. He felt, however, that this method could be safely adopted only where there was a small discharge from the wound. Furthermore he considered it more difficult to use this method successfully and so preferred to employ antiseptics. By the time he ceased active surgical work, he had perfected his method so as to secure the maximum protection with the minimum irritation. Frequent changes of dressings was

abandoned. With irritation reduced, there was generally no need for drainage. "In fact his ideal of a subcutaneous injury had been more or less attained." (25.) Later developments of aseptic technic have been only a further extension of Lister's own methods.

LISTER AS A BACTERIOLOGIST.

While working out the details of antisepsis, Lister was led deeply into the subject of bacteriology, and he published several original investigations in this new science. Of these the briefest summary must suffice. He repeated Pasteur's classical experiments; he introduced the methods of heat sterilization which are still employed; he invented an ingenious flask for containing and pouring sterile media. In conducting an exhaustive series of experiments on lastic fermentation he devised a plan for separating different kinds of bacteria (by repeated dilution and microscopic examination of drops) which, though very laborous, was practically the only way of getting a pure culture, until Koch introduced his solid media. He made observations on the sterility of the natural fluids of the body (milk, urine) before contact with air.

Observing that putrefactive bacteria did not penetrate along healthy canals, such as the urethra or milk ducts, he speculated on the protective arrangements of the body, attributing the destruction of these organisms to the action of the healthy tissue and pointing out that wounds are capable to some extent of destroying bacteria. His experiments showing this inhibitory action of the blood on the growth of putrefactive organisms are quoted today. (23.)

Lister was among the first to realize the distinction between putrefactive and pathogenic organisms. He made observations on the spread of erysipelas in the body, which were later confirmed by Koch, and also hinted at the bacterial origin of tetanus. His emphasis of the importance of bacteria as a cause of wound troubles had a marked effect in stimulating others to study the pathological influence of bacteria.

CONTRIBUTIONS TO OPERATIVE SURGERY.

While Lister's great work in surgery has been his development of antisepsis, he has made several important contrubutions to the operative side. He wrote authoritative articles on anæsthetics and amputation for Holmes' System of Surgery. He devised new methods for excision of the wrist-joint and amputation of the hip. To him, we are indebted for the practice of wiring fractured patellæ, clearing out the axillary glands in breast operations for carcinoma, and the free incision and drainage of psoas abscesses. With the introduction of antisepsis Lister accepted for operation cases which before would have been hopeless. Amputations became a last resort instead of an imperative procedure in compound fracture. The treatment of spinal abscesses, tuberculous abscesses of joints and chronic synovitis was revolutionized. Operations for mal-united fractures, osteomy for knock knee and other deformities were boldly performed. "Indeed much of the present operative work along these and other lines was directly initiated by him." (24.)

His clinic during these years became the most noted in the world. Surgeons came from all Great Britain, Continental Europe and from America to learn from the master himself the antiseptic technic and the operations it made possible. These men returning home became missionaries of the antiseptic gospel and "the most brilliant era in the history of surgery" was inaugurated. Daring became conservatism; what had been rashness became commonsense. "The cranial cavity, the thorax, the abdomen, the lungs, heart, intestines, joints, the eye, the ear, regions which were once sacred to the action of disease and which were inspected only on the past-mortem table" are now, as a result of Lister's work "opened freely to the renovating measures of the surgeon." (8.)

LISTER A SCIENTIST AND A CLINICIAN.

In seeking to form a estimate of Lister one must take into account the combination in his make-up of the scientist and the clinician. It was this combination which made his

work so epochal. Listerism was not an accidental discovery. It was the result of vigorous investigation and logical reasoning. And seldom has a scientific deduction been so wonderfully justified by its practical application.

Lister's contribution to surgery was not a new method of doing old things. It was a new principle—that for perfect healing a wound should be free from germs. Failure to understand this explains the attitude of his critics and their inability to duplicate his results. They thought he had merely suggested a new carbolic lotion for dressing wounds. What he had done, in the words of Sir Frederick Treves, was to "create anew the ancient art of healing." (25.)

Listerism has not only made possible all modern surgery. It has "completely revolutionized our views and our methods in obstetrics." (26.) It has exercised a profound influence on gynecology, ophthalmology, pathology and bacteriology. The greatest advance of modern medicine has been the recognition of the germ origin of many diseases, and the history of the "germ theory of disease" cannot be written without taking into account the word of Lister. A most important application of Lister's teachings has been their use in animal experimentation. Without Listerian technic much of the most valuable work of Pawlow, Cohnheim and others would be impossible.

HONORS CONFERRED ON LISTER.

The honors that have been showered on Lister have been almost unprecedented. Knighted in 1883, he was raised to the peerage in 1897. In 1892 at Pasteur's jubilee he was chosen to deliver an address, representing medicine and surgery for the whole world. He was elected president of the Royal Society and of the British Association for the Advancement of Science in 1896. He was surgeon to Queen Victoria and has been appointed surgeon extraordinary to King Edward.

In 1898 the municipal government of Edinburgh publicly extended to him the freedom of the city. Glasgow has

honored him similarly. In 1907, the year of his 80th birthday, the Lord Mayor of London tendered to him the freedom of the capital. The celebration of his birthday was marked by congratulatory addresses and messages from the medical profession of the whole world. It was also made noteworthy, following the German custom, by the publication by his former students, of a "Festschrift" of his collected papers.

Honorary degrees have been conferred on Lister by the universities of the world, while medals and memberships in learned bodies have been presented by the score. Today at 83, he is spending his old age honored by the whole world and happy in the knowledge of benefit conferred upon all humanity.

LISTER'S SYMPATHY HIS GREAT CHARM.

Sidelights on Lister's life from men who have known him reveal the human character of the man. Great as was his devotion to the scientific side of surgery, he always felt the keenest sympathy with his patients. Indeed it was the distress and anxiety of seeing them suffer from the after-effects of operations that helped lead him to work out a means of prevention. A patient's impression of him is given in the late W. E. Henley's graphic poem "In Hospital." Henley was for 18 months a patient in the Edinburgh Royal Infirmary and this is part of his description of Lister:

> "His wise rare smile is sweet with certainties
> "And seems in all his patients to compel
> "Such love and faith as failure cannot quell.
> "We hold him for another Herakles
> "Battling with custom, prejudice, disease
> "As once the son of Zeus with Death and Hell" (27).

Lister's popularity with his students and house surgeons bears witness to his kindness and consideration. While his enthusiasm was so great that he spared neither himself nor his helpers when working on a problem, he was always friendly and approachable and ready to help the younger men. He was fond of the company of his co-workers and

his house was a place of generous hospitality. On such social occasions, says Prof. Annandale, of Edinburgh, Lister, joined heartily in the fun and it was always considered a treat when he could be persuaded to sing "Jock o' Hazeldean" and other Scotch ballads. (28.)

In all his writings and especially in the way in which Lister has borne the honors of his later years, one cannot but be impressed with his humblemindedness. His papers are written with confidence, but with modesty. His attitude has been that of Ambroise Pare, who said of a patient, "I dressed him; God healed him."

Two pictures of Lister in the "Collected Papers" give us a conception of the character of the man. The first represents him at about 35. The profile is that of the thinker, the philosopher, the man who sees visions. The forehead is high, the eyes deep set, the features finely modeled. The expression and attitude betoken meditation, concentration of thought, speculation. The other is a picture of Lister today. It is a frank, open face. The eyes are clear and friendly; the mouth is kindly. The expression is one of contentment. There are lines in the forehead, but not lines of worry. The wrinkles at the corners of the eyes and upon the face are wrinkles that good humor makes. The clustering white hair adds dignity. The face is the face of one who has worked long and well and in the evening time of life enjoys the peace of mind and satisfaction of tasks completed.

The importance of these tasks and the world-wide significance of Lister's work are well summarized in this tribute of Sir Frederick Treves:

"He made a reality of the hope which had for all time sustained the surgeon's endeavors; he removed the impenetrable cloud which had stood for centuries between great principles and successful practice, and he rendered possible a treatment which had hitherto been the vision of the dreamer. The nature of his discovery—like that of most great movements—was splendid in its simplicity and magnificent in its littleness. To the surgeon's craft it was but the one thing

needful. With it came the promise of a wondrous future, without it was the hopelessness of an impotent past." (25.)

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WHAT THE MAYOR AND CITY COUNCIL CAN DO IN THE PREVENTION OF TYPHOID FEVER.* **

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Since the early dawn of civilization the conservation of human health has been a problem in the minds of men and has received more or less consideration from those responsible for the welfare of the tribes and nations. Public hygiene was cultivated to some extent among the ancient Egyptians, and in the code of sanitary laws given to the children of Israel by Moses there is contained much that might be adopted advantageously by many of our communities in the twentieth century.

From time to time infectious diseases have swept as great epidemics over different parts of the world. The peoples, rudely and terribly awakened to the existence of

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these devastating scourges, have groped in darkness to find ways of escape. Various and at times most fantastic hypotheses have been adopted to account for the visitations. In this dense wilderness of doubt and fear, of superstition and ignorance, there have appeared from time to time men of science who, basing their conclusions on carefully observed facts, have blazed a trail toward the light. In the nineteenth century many men of this type appeared and wonderful progress was made.

The twentieth century, bringing the accumulated knowledge of the past, presents us with wonderful opportunities. Efficient methods of preventing most of the widely prevalent infectious diseases are now perfectly clear. Shall we endeavor to apply these methods, or shall we await the developments of the future in the hope that methods of easier application may be discovered? Such postponement would seem no more justifiable here than it would in other fields of endeavor for the betterment of the human race. While awaiting the discovery of better methods innumerable lives may be needlessly lost. It is, therefore, a plain duty for us to employ to the best possible advantage such instruments as we have at hand.

APPLICATION OF METHODS TO PREVENT INFECTIOUS DISEASES.

Although efficient methods to prevent most of the infectious diseases are well known, yet in many instances the securing of ways and means to get these methods applied in a given community remains a grave and difficult problem. To the inexperienced the passage of laws requiring the enforcement of the methods would seem a simple solution of this problem. Convince the average citizen of the existence of some condition deleterious to the community and at the same time remediable, and as a rule he will say, "There ought to be a law against it." This observation in many instances is no doubt quite true, but the practical question which always arises in this connection is, Is the

community ready for such a law? In other words, are the people willing to be subjected to such inconveniences and curtailment of personal liberties as may follow the enactment of such a law for the benefits which may accrue? Ruskin once somewhat cynically observed:

"Any interference which tends to reform and protect the health of the masses is viewed by them as unwarranted interference with their vested rights to inevitable disease and death."

Such a view among "the masses" is certainly becoming more and more exceptional. If the people have the facts about a grossly insanitary condition properly presented to them, they will, as a rule, become convinced of the advisability of having such condition corrected, and not only tolerate, but in some instances demand interference by the sanitary authorities.

The people generally, under the various educational influences of modern times, are adapting higher and higher standards of sanitation. Conditions which were once viewed with indifference or helplessness are now abhorred.

Under a republican form of government no law can be successfuly enacted which does not represent the strong convictions of a strong majority. The people, having the power of appointment of the makers and the administrators of the law, are the ultimate arbiters of the form of government under which they shall live. Education of the people, taken in a broad sense is, therefore, essential to advancement in sanitation, or disease prevention, as in other measures for the uplift of our nation.

The adage "Nothing succeeds like success," is particularly applicable to the work of disease prevention. In these days of publicity a successful fight against a disease in any particular community will be heralded abroad, and may have a widespread—even a world-wide—educative influence. Among the many brilliant achievements in sanitation within recent years which have had such influence, a few may be mentioned: The eradication of yellow fever from

Habana, Cuba, and New Orleans, La.; the sanitation of the Isthmian Canal Zone in Panama; the eradication of bubonic plague from San Francisco, Cal.; the marked reduction in hookworm disease in Porto Rico; and the eradication of typhoid fever from Trier, Germany.

A successful campaign against one infectious disease in a community educates to a considerable extent the people of that community to an understanding of the feasibility of successful campaigns against other infectious diseases. The proper disposal of sewage in order to eradicate hookworm disease can be expected to effect a very marked reduction in the prevalence of typhoid fever, because both hookworm disease and typhoid fever are caused by infections which are disseminated, primarily, essentially, and solely from faultily disposed-of excreta from human beings. The prevention of sewageborne infections is certainly one of the most vitally important economic problems with which our Southern States are confronted today. There is abundant indisputable evidence that the proper disposal of human sewage will prevent typhoid fever, hookworm disease, the dysenteries, much of the diarrheal disease of infant and adult life, and many of the diseases caused by the larger animal parasites; by preventing these and perhaps many other infections, it will probably operate to markedly reduce the prevalence of tuberculosis, pneumonia, and other diseases, possibly including pellagra.

Thus in proper sewage disposal we have a measure which is of remarkably broad application in the prevention of disease. As a simple prescription with "shot gun" effects, it can be most highly recommended for the ills of the community.

With the facts which the accumulated knowledge of the ages lays before us, can anyone doubt the wisdom of a municipality when it spends sufficient money to secure a proper disposal of its own sewage and to prevent to a reasonable degree the spread of infection coming through various media from the sewage of communities? Can any-

one doubt the wisdom of a dweller in a rural section when he expends a few dollars or a little labor for the construction and management of a sanitary privy and thereby saves in doctor's bills alone many times over the amount of his expenditure? The value of the health and happiness preserved to the people by the use of this simple sanitary devise can not be measured on a monetary basis.

Typhoid fever presents itself as a striking example of the diseases due to sewage-borne infections, and therefore may be appropriately taken up for somewhat specific consideration.

PREVALENCE OF TYPHOID FEVER.

Typhoid fever has been defined as "a disease of civilization," but as Sedgwick well says:

"It ought to be clearly understood that it is only a disease of defective civilization, for it has gradually become notorious that the widespread or frequent occurrence of typhoid fever in any community must be due somewhat to defective sanitation, and defective sanitation means defective civilization."

There are in the United States comparatively few communities of over 1,000 persons, which, during any period of twelve consecutive months within the past decade, have been entirely free from typhoid fever. According to the Census Report for 1900, the average typhoid fever death rate in the United States was 46.5 per 100,000 inhabitants. This means that in the census year, which may be taken as an average, there were about 500 cases of and over 46 deaths from typhoid fever among every 100,000 persons composing the American nation. The total number of deaths from typhoid fever recorded that year was 35,379, which gave this disease fourth place on the mortality list.

The rate of prevalence of typhoid fever in the United States in comparison with the rates in other countries is high. Thus the annual typhoid death rate per 100,000 population for the period of 1901-1905 was in Scotland, 6.2; in Germany, 7.6; in England and Wales, 11.2; in Belgium, 16.8; in Austria (1901-1904), 19.9; in Hungary, 28.3; in Italy, 35.2; while the

rate in the United States during the same period was about 46 (estimated).

Do not these figures plead eloquently that in the development and exploitation of the wonderful natural resources of our country it is high time that serious consideration be given to measures for the conservation of that most important of all our resources, the nation's health?

Some of the European countries now having relatively low typhoid rates formerly had high rates. Their climatic conditions seem to be as favorable to typhoid infection as those of the United States as a whole. Therefore it appears reasonable to conclude that their decidedly lower typhoid rates have been brought about by their better enforcement of the preventive measures.

In the United States the disease is especially prevalent in the South. According to the figures of the United States Census Report for 1900, the 10 states which had the highest typhoid death rates (average, about 79 per 100,000) are all States located south of the Potomac and east of the Mississippi rivers; the 10 States which had the lowest rates (average, about 20 per 100,000) are all Northern or Western States. Some of the Northern States formerly had high rates, as high as or higher than those which some of the worst affected Southern States have had in recent years. In Massachusetts, for example, in the decade 1871-1880, the average annual typhoid death rate was 62 per 100,000, while in the period 1901-1905 it was 18.2.

The lowered typhoid death rates in the Northern States have followed improvements in the water and milk supplies, the installation of better sewage disposal systems, and improvements in general sanitary conditions. The high rate of prevalence of typhoid fever in the South may reasonably be attributed to the following conditions:

Faulty sewage disposal, incident to the relatively large rural population, and, particularly, as pointed out by the investigations of Stiles,* to the large percentage of negroes in the population.

2. Climate; the long periods of warm weather when there are additional agents for the transmission of the infection, such as flies and other insects, and when greater quantities of uncooked foods and beverages are consumed and there is probably increased individual susceptibility to the infection.

It is certainly possible, and by some regarded as even probable, that whatever increased susceptibility to typhoid infection may exist in warm weather is due largely to the ingestion of organisms which are disseminated from faultily disposed of human excreta. If this hypothesis be correct it is certain that the proper disposal of sewage will completely prevent the operation of all the factors in the production of typhoid fever which are particularly favored by warm weather conditions.

Considering the number of communities in the South in which polluted water supplies have been used for long periods, it is a notable fact that there have been reported in the South no pronounced and extensive epidemics of typhoid fever caused by water-borne infection. It may be that the causative organisms in the relatively warmer river and lake waters of the South do not survive in sufficient numbers to cause pronounced epidemics. In some communities in the South, as has been shown for some in the North, water may play an important part, but judging by the limited data available, it seems probable that water is a relatively much less important factor in the spread of the infection in the South than it is in the North.

Not many years ago typhoid fever was regarded quite generally as being largely or even entirely a water-borne disease, and the purity of a community's water supply was estimated from the typhoid death rate. Careful epidemiologic studies have shown that in some communities there may be a high typhoid death rate due largely or even entirely to factors other than water in the spread of the infection, and sanitarians now regard the typhoid death rate of a community as a fair measure of the intelligence

exercised by that community in respect to sanitation in general.

NATURE AND SOURCE OF THE INFECTION.

The modes of dissemination and the means for the prevention of typhoid fever are now quite well know—in fact there are few other infectious diseases about the spread of which so many convincing facts have been recorded. Notwithstanding the accumulated knowledge and its ready availability, the general public still, in too frequent instances, is found to be woefully ignorant of the nature of typhoid infection and of the fact that the disease is thoroughly preventable. In many communities the people regard the occurrence every year of a certain amount of typhoid fever as inevitable, and accept it with complacency. But if in one of those same communities a few cases of Asiatic cholera should occur the people generally would become keenly awake to the situation and urgently demand protection. The newspapers would publish, on front pages with glaring headlines, vivid accounts of the disease; the purse strings of the public treasury would be loosened, and, if the funds there were not sufficient to meet the emergency, more could readily be obtained by popular subscription. In consequence of these earnest activities Asiatic cholera would soon be eradicated. Typhoid fever is just as preventable as is Asiatic cholera, and, it so happens, is spread in exactly the same ways and can be eradicated by exactly similar measures. Both diseases are caused by germs which are parasitic in nature and dependent upon man as their permanent host for their continued existence. These germs are contained in the dejecta from the bodies of infected persons. From such dejecta they may be conveyed by various agents, such as water, food, fingers, flies, etc., to the alimentary canals of healthy persons and so be continued on their disease and death dealing course. To prevent these diseases it is evident, therefore, that all that is necessary is to disinfect the excreta from infected persons, or to dispose of these excreta in such a way that

the germs contained in them can not be conveyed to other persons. This plan of action seems simple enough, and if it can be made sufficiently wide in scope it will undoubtedly prove successful. The problem has, however, certain complications which increase the difficulties of its solution:

1. Certain persons continue to harbor the germs in their bodies and to discharge them in their excreta for weeks, months, or even years after complete recovery from clinical symptoms of the disease. Other persons contract the infection and, although never having a clinically recognizable attack of the disease, become germ carriers. In order to safeguard the community against these sources of infection it is necessary to have the sewage of all persons —the sick and the well—properly disposed of.

2. The persons in a given community may use water, milk, and various foodstuffs coming from a distance and liable to be contaminated with the excreta from infected persons over whom their own local officials have no jurisdiction; thus the problem may become of state, national, or even international extent.

But these difficulties are not insurmountable. Should the disaster of a cholera epidemic fall upon this country there is not a question of doubt that effective measures for its eradication would be promptly adopted. Since this is true for cholera, it seems evident that it is the duty of every good citizen to strive with might and main to awaken the people from their lethargy in respect to the preventability of typhoid fever.

FUNCTIONS OF THE MAYOR AND CITY COUNCIL.

The functions of the governing body of the municipality are legislative, administrative, and educative. In performing one of these classes of function it performs to some extent the others also. If laws be made wisely they can be administered successfully. The successful administration of wise laws—laws for the public welfare—will exert an educative influence upon the people, and so facilitate the subsequent enactment of laws of similar character. It is

also true in these days of an awakening public that the enactment of flagrantly bad laws will have an educative effect, in some instances with disastrous consequences ensuing to the perpetrators of such laws.

The men in a municipality who are elected by the people to the mayoralty and to the city council are so elected because the majority of the people are made to believe that they will advance the best interests of the municipality. In some instances—exceptional ones now, let us hope—an organized and active minority may elect candidates to represent special interests which are opposed to the best interests of the unorganized and inactive majority. But in these days of publicity and of civic federations the opportunities of those who work for such selfish interests are becoming fewer, and the ways of the transgressor harder.

Officials who would advance the best interests of the municipality should know that one of the most important and vital of all these interests is the conservation of the health of the people. In this connection the great English minister, Disraeli, once said:

"Public health is the foundation upon which rest the happiness of the people and the power of the state. Take the most beautiful kingdom, give it intelligent and laborious citizens, prosperous manufactures, productive agriculture; let arts flourish, let architects cover the land with temples and palaces; in order to defend all these riches, have first-rate weapons, fleets of torpedo boats—if the population remains stationary, if it decreases yearly in vigor and in stature the nation must perish. And that is why I consider that the first duty of a statesman is the care of public health."

Of the widely prevalent infectious diseases none promises better results from equivalent amounts of intelligent effort at prevention than does typhoid fever, and in the prevention of this disease, therefore, municipal officers have a great opportunity.

WHAT THE MAYOR AND CITY COUNCIL CAN DO IN THE PREVENTION OF TYPHOID FEVER.

(1) Become informed as to the nature of the infection, it modes of spread, and the methods to prevent it.—This information is now readily available. It may be obtained by applying to the local health office, the state board of health, or to the United States Public Health Service at Washington. Anyone possessed of moderate intelligence can learn this simple lesson in hygiene, and it is the plain duty of every good citizen, particularly of those composing the governing body of the municipality, to at least try to learn it.

(2) Make disease prevention a conspicuous policy of the administration.—Such a policy is undoubtedly a most praiseworthy one, and if adopted with common sense and propriety can be made a most popular one. A candidate for re-election to the mayoralty or city council can point unhesitatingly to his achievements in protecting the health of the people as one excellent reason for his continuance in office. It has been marked that "practical politicians in a municipality usually regard the health office, not as a political asset which may be used to advantage in campaigns, but as a grave liability with a great capacity for getting the administration into trouble." This estimate is not necessarily correct, and within recent years it has been realized in a number of instances that the good record of the city health office may be used as one of the winning cards in local campaigns.

(3) Make efficiency the primary basis of appointments to positions in the health office.—It is the health officer's success in disease prevention and not his particular affiliations which will reflect credit upon the administration. His work is of highly specialized character requiring of him, for its successful accomplishment, special technical training. The intelligent individual citizen, when ill, engages as his physician one whom he believes to be skilled in his profession, and in his selection gives little or no consideration

to the political affiliations of the physician. The municipality should exercise similar intelligence in selecting its physician—the health officer. The administration in retaining in office an efficient city health officer who has been appointed by a previous administration deserves, and usually will get, the approbation of the people. The administration in dismissing from office such an incumbent and appointing in his place a decidedly less efficient man deserves, and should get, the grave censure of the people.

(4) Provide adequate salaries for health officers.—The salaries paid health officials, particularly of cities having less than 100,000 population, are, as rule, ridiculously small. In consequence, active and efficient services can not be expected. The man of ability who holds the position of health officer usually can not afford to give up his other and more lucrative work in order to devote his time exclusively to the duties of the health office. The salary should be made commensurate with the duties and responsibilities of the position, and the municipality should then demand that the duties of the position be energetically performed.

(5) Appropriate funds for sanitary improvements as liberally as the taxation rate will permit.—In the average municipality there are so many public improvements needed which the funds of the treasury are inadequate to provide that it is, no doubt, very difficult at times for the municipal authorities to determine to what purpose the scanty funds can best be put. Of the conditions affecting the welfare of the whole people of a community, a good sewerage system and a good water supply are certainly among the most vitally important. If the treasury funds are insufficient to provide these, the city authorities should keep the facts clearly and persistently before the people. By so doing, the people eventually may be made to understand and become not only willing but anxious to supply the necessary funds.

(6) Provide for the collection of mortality and morbidity statistics so that the results of sanitary work may be

known.—This can be done with very little cost to the municipality. The enactment of an ordinance requiring physicians to report cases of infectious diseases, and undertakers to file certificates of causation of death in order to obtain burial permits, will accomplish it. Without these statistics, which are the "bookeeping of sanitary science," it is practically impossible to tell what progress is being made. In some instances the attempt may be made to conceal the facts about health conditions in a city for fear that if the conditions become known the business interests will be injured. It is just about as easy for a community to succeed in such concealment as it is for a man to conceal the fact that he has a broken leg by making efforts to run. The tactics are bad and the results usually disastrous. It certainly seems more in accordance with sound business principles for a city to know its health conditions, to improve them, and then use the improved conditions as a basis for legitimate advertising.

(7) Provide for the proper care of the sick.—For every case of typhoid fever originating in a municipality, the municipality is to a large extent responsible. The patient's bedside is a fountain head of infection. There the infection may readily be destroyed, but once allowed to escape from there, it may be disseminated in various ways and become very difficult, or practically impossible, to trace and destroy. Therefore, the municipality, not only on account of its ethical obligation for the development of the case, but also to safeguard the community, should provide for the necessary precautions at the bedside of the patient. If the patient's family can not be coerced into carrying out the measures, the municipality should provide either hospital accommodation or free nursing and disinfectants.

(8) Keep in close touch with and support the health officer in his work.—You fight a common enemy, and unless you have concerted action you can not expect to wage a successful warfare. When the mayor and city council can not agree with the health officer on the plan of campaign,

it is time either for that mayor and city council or for that health officer to be removed from office.

(9) Co-operate with the authorities of other municipalities, of the State, and of the nation.—A municipality which dumps its untreated sewage into a stream used as a source of water supply by municipalities downstream can not consistently ask the municipalities upstream not to pollute this water with their sewage. In sanitation, municipalities, even as individuals, may adopt to practical advantage the good old golden rule "to do unto others even as you would have them do unto you."

(10) Teach by precept and by example the precautionary measures.—The mayor and the city councilmen have been honored with the confidence of the people and have been appointed to the leadership of the municipality. Therefore their conduct, in respect to the simple rules of sanitation at least, should be exemplary. What they do quietly and consistently to safeguard their own households may impress some of their neighbors more profoundly than what they proclaim from the rostum in the heat of political campaign. If they believe the water is polluted, they should use boiled water in their own homes. If they believe the milk supply is dangerous, they should have it pasteurized before giving it to the members of their own households. If they believe that from faultily disposed of sewage, disease may be spread, they should have sanitary water closets or privies at their own homes. In short, teach by deeds as well as words.

Such are some of the things which the mayor and city council can and should do in the prevention of typhoid fever. Summed up, just this: They can and should do their plain duty as city officials, as citizens, and as men.

And let no one suppose that this is a matter in which he has no personal interest. The duty itself we may evade, but we can never be sure of evading the penalties of its neglect. The disease not seldom attacks the rich, but it thrives among the poor. But by reason of our common humanity we are all, whether rich or poor, more nearly

related here than we are apt to think. The members of the great human family are, in fact, bound together by a thousand secret ties of whose existence the world in general little dreams; and he that was never connected with his poorer neighbor by deeds of charity or love may one day find, when it is too late, that he is connected with him by a bond which may bring them both, at once, to a common grave.—(William Budd, Typhoid Fever, London, 1873.)

THE VALUE OF AN INTERNSHIP IN COOK COUNTY HOSPITAL.

By JOHN R. HARGER, S. B., M. D.

Of the learned professions, Medicine, Law and Theology, Medicine is pre-eminently the one which requires the most careful preparation for practice, because the physician, the moment he enters his life work, has to deal with human life, the most sacred thing on earth.

The shortcomings and mistakes of the inexperienced lawyer and preacher do not weigh as heavily in the balance of human woes as the errors of judgement of the young practitioner who enters his profession without adequate, thorough, careful preparation. The former can very often be rectified by subsequent efforts in the right direction; the latter are only too often beyond the reach of human aid.

The preparation of the physician today is vastly different from that of half a century ago, or that of two decades ago, but it is as yet far from what it should be and the mistakes that are made by the inadequately prepared physician, while perhaps not as numerous as they were years ago, are causing a vast amount of unnecessary suffering.

It is needless to dwell upon the advances made in medical education in recent years, but regardless of the marked improvement, there is one phase of the work that has not kept pace with the others, and that is the practical education

which is secured only by the securing of an internship in some modern hospital.

The opportunity of securing an internship was offered a half century ago just as today; however, there were not so many positions available, and the student, after spending one or two years in school, was required to spend about the same amount of time in interne service as he does today. Now, that the student days are increased about three or four fold, the interne service remains about the same and is no more required of the out-going student than it was fifty years ago.

As to the value of an internship, there is, it would seem, no doubt, and the advantages it gives its possessor over the man who goes directly into practice, are many and varied.

The object of this paper is to discuss the value of an interne service, and particularly, that in Cook County Hospital, especially for the benefit of the men of our own school and college.

The science of medicine, having reached such proportions, that the student has no time except to cram his head full of the book ideas, he must needs think for a moment of the practical side of the question, and solve for himself the problem of obtaining such knowledge.

At present, as in all times past, the serving of an internship is purely optional. However, it seems that the time is not far distant when the demands of the public will make it necessary for the medical school to require that the years of the student be supplemented by a year or two of service in some well equipped hospital. With this in view, it behooves the present day student to secure as much of such service as can be obtained, lest in a few years he find himself relegated to the ranks of the incompetent, or reclining in his office chair musing over the failures of this life and asking himself why the study of medicine ever appealed to him.

Every year brings an increasing number of ex-internes into the field, and the man leaving college today has quite a different problem to face than the man of twenty or thirty

years ago. There are not only many more competent men, but the public has been sufficiently awakened, and is beginning to appreciate and demand more competent service and a man whom it knows to have had more practical experience.

The greatest value of an internship consists in the practical training received. Dr. Nicholas Senn said that a year and a half in a large, well equipped hospital, and under the tuition and supervision of a competent staff, is more than equivalent to ten years in active practice. In view of the above conditions, it seems that the student leaving college today is not justified in going into practice without first spending a year or two in some hospital. Furthermore, the public has a right to demand that the physician entering its homes as a medical counsellor must give evidence of having had sufficient practical experience to enable him to render competent services, a thing, which, it must be admitted, a man fresh from his books cannot do.

Looking at it from the other side, how many of the present body of students would seek the services of a raw recruit, were they suffering from some serious and perhaps obscure malady?

Then, how can we expect the public to suffer themselves to be cared for by a like recruit when the life of the individual is at stake, and the happiness and welfare of his or her family, are endangered?

The interne has the advantage over his colleague from the beginning. The competitive examination which he must pass is sure to prompt him to do more careful and conscientious work during his student days. The interne who receives his appointment by competitive examination, as a rule, is a representative of the more ambitious element of his class, and is from the beginning looked to as a man who is intent on making a record for himself. It is he who has a taste for the scientific side of medicine and who has decided to become a physician for the good he can do rather than for the money there is in it.

When the student is planning for his hospital service,

he should endeavor to secure the appointment that will give him the best possible service and the most practical and scientific training that can be obtained in the alloted time. During the clinical work of his student days he receives his knowledge second-hand through his instructor and thus finds that "The road to learning by precept is long," while in his hospital service where he comes into intimate contact with the patients, he is fully impressed with the fact that "The road to learning by example is short and effectual."

The private hospital offers a valuable service to the interne in the care of his patients, in diagnosis and pathology, but this comes to a great extent through his attending man. The private hospital offers only a limited number of the more common conditions and many of the more rare diseases are never seen, while the Cook County service permits the interne to come into more intimate contact with the patient and finds things for himself, and also offers almost an unlimited number of the common diseases and a few of almost every disease known to man in this part of the country.

It enables the interne to observe all phases of a disease, all types and varieties in all classes of people and under widely different circumstances; so also the varied effects produced and the results obtained by the therapeutic measures, opportunities which are invaluable and are not offered in any other institution in the west.

As a stimulus to work in the private hospital, the interne is required to do a definite set of things under the direction of the attending staff, a training of great value, while his incentive to work out his own salvation or follow out his own ideas is constantly hampered by the rules governing the privacy of individual patients. The Cook County service, if viewed from the proper standpoint, offers the greatest incentive to work of any service that is offered to an interne. If he be possessed with a desire to seek things for himself, the opportunity is unlimited, but if he be a man of only mediocre tendencies

in that line, he will find himself working and searching for things that he little dreamed of, and he will make discoveries and solve problems that he scarcely thought were within his sphere, which would be utterly impossible were he compelled to limit his work to the observations and findings of the patient's private physician. Yet, linked with this knowledge seeking ability, and quest for the cause of conditions, the Cook County interne has alway the most able consultant, the attending man, to varify each and every point and to assist him in locating the more obscure lesions, thus enabling him to fix more firmly the ideas in his mind and also the methods of obtaining them.

The responsibility in the private hospital rests almost entirely with the attending man, while in Cook County it is quite the reverse and the responsibility of the interne is equal to, if not greater, than that of the man in private practice, for he has under his care a class of people, most of whom are from the lower walks of life and whose financial means are quite limited, they being thus cast upon the mercy of the charitable institution. So also their ignorance often makes them in a way more susceptible to the influence of their superiors, and yet very skeptical at times as to the feasibility of certain measures that are advised for the relief of their sufferings.

The interne who does not feel this responsibility and who preys, in anyway, upon the ignorant and susceptible under his care, and does not do good, honest and conscientious work with each patient, is not worthy of the name of Cook County interne, and is missing a training which he will ever find of greater value to him. Such a responsibility he cannot have, nor can he acquire the habit of assuming such in a private hospital, where he allows it to rest with the attending man, as he must do in most cases.

The private hospital service, as a rule, covers the three great branches of medical science; namely: Medicine, Surgery and Obstetrics, to a greater or less extent, while

the branches particularly known as the specialties have little or no representation.

In the Cook County service every branch and specialty are represented and the interne receives a considerable practicable experience in all. The services of special interest that have no representation in private hospitals are contagious diseases, skin and venereal, nervous and mental, and post-mortem, a practical knowledge of each being quite essential for the success of the general practitioner. The post-mortem service alone in Cook County Hospital is of inestimable value in enabling the interne to locate "the broken link which severed the chain of life." It is in the silent dead house that he often clears up that which remained a mystery during life, and it is here where he completes his diagnosis of the more obscure and fatal conditions.

The laboratory of Cook County Hospital, while not all that could be desired, offers facilities for an unlimited amount of work in making diagnoses, and a fair amount of research work. The time the interne is required to spend here and the training he obtains exceeds by far the laboratory time and training of the average interne in the private hospitals. It is here that he is enabled to complete his clinical history which he is required to carefully obtain.

The operating room equipment and technique in Cook County are second to none and the methods of conducting operations makes it not only possible, but almost necessary, for the surgeon to acquire the best aseptic technique.

After leaving the hospital, it must not be forgotten that the interne, owing to his superior qualifications in practical work, is sought by hospitals, medical colleges, corporations, insurance companies, army and navy service and by the foremost men in the various branches of our profession who are in need of a capable assistant.

The Cook County ex-internes are always in demand and by some of the larger corporations they have been singled out and no other man accepted to fill the places. Still further

it should be remembered that the large percentage of the leading men in the profession in Chicago, and some in other large cities, are ex-internes of Cook County Hospital, and wherever they go they come to be recognized as men of ability and wide experience.

2912 Jackson Boulevard.

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WILLIAM B. DAY, EDITOR.

MICROSCOPICAL EXAMINATION OF BELLADONNA EXTRACT.*

BY E. N. GATHERCOAL.

A question recently arose as to whether extract of belladonna root or extract of scopola could be legally used in the manufacture of belladonna plasters, provided the plaster contained the official requirements of mydriatic alkaloids. This lead to the question as to the possibility of distinguishing, with the microscope, between extract of belladonna leaf extract of belladonna root and extract of scopola Upon investigation it was found that sufficient characteristic vegetable tissue could ussually be obtained from an extract to identify the drug from which the extract was made.

A portion of the extract about the size of a wheat grain is smeared on a glass slide and viewed with a low power (75 diameters) of the microscope. The most prominent objects seen in the field of view, if the extract is of belladonna root

*Read before the Section on Scientific Papers of the American Pharmaceutical Assoceiation at the meeting held in Richmond, Va., May 3-7, 1910.

or scopola root, are a large number of rhombohedron-like crystals, sometimes quite irregular and measuring 25 to 150 microns in longest diameter. Another striking feature in specimens of some of the root-extracts is the considerable amount of fixed oil globules present. In but a few instances is starch is found and very seldom cellular tissues. The extracts of belladonna leaf do not show the crystals nor fixed oil as in the root extracts, but present an almost homogeneous appearance.

A similar portion of the extract is smeared on a slide and covered with a drop of water and a cover glass. The crystals rapidly dissolve, the oil globules become mor distinct, and starch may be found. The starch and oil are distinguished by the use of iodine solution. In the leaf-extracts some dark masses of oily chlorophyll may separate out.

To a similar smear of the extract a drop or so of alcohol is added and now the crystals do not dissolve, but the oily substances do gradually dissappear.

One gram of the extract is well mixed in a test-tube with 25 Cc. of 50 per cent. alcohol, rubbing and stirring the extract into the fluid with a glass rod. The mixture is allowed to stand several hours until the precipitate settles out or it may be centrifuged at once. The precipitate in most cases is quite voluminous and falls slowly. There clear, supernatant liquid is psured off as completely as possible and amout prepared from the precipitate. This may show starch, oil and cellular tissues, but so much brown extractive is present as to largely obscure other material.

To the remainder of the precipitate is added about 5 Cc of concentrated hydrochloric acid, which dissolves the starch and the brown extractive, but does not injure the vegetable tissues. Then about 10 Cc. of alcohol is added, the precipitate allowed to subside and the fluid decanted. The use of the centrifuge for throwing out precipitate permits of a great saving of time. The precipitate, which in most cases is now very small in amout, is tranferred to a slide and mounted in the few drops of fluid adhering to it. Or it may be transfer-

red with several drops of liquid to a watch glass or small white crucible, nearly dried with gentle heat and then scraped onto a slide and mounted in a drop of chloral hydrate solution.

In these mounts, particles of cellular tissue, that were present in the extract, are seen. The amount of these particles varied widely in the different extracts examined. There were found pieces of thin-walled parenchyma filled with partially destroyed starch, masses of parenchyma and tracheal tubes, separated pieces of tracheal tissue, smaller and yet smaller peices of parenchyma tissue and cells. occassionally a fiber, some extraneous tisues as cotton fibers, and in one instance several well-defined cells of cocoanut shell, and finally in some of the mounts many peices of black substance resembling charred or carbonized matter.

The tracheal tissues were used as the pnincipal maens of distinguishing between scopola and belladonna roots. Some of the tracheal tubes of belladonna have on their walls well-defined, slightly elongated, bordered pits and none of the tubes of scopola have such markings. Some of the tubes of scopola have on their walls much elongated, very prominent slits with the portions of the walls between the slits heavily thickened, giving a very characteristic reticulate appearance. None of the belladonna tubes have such markings. However, some of the belladonna tubcs have pores not bordered, and more elongated, so as to present a rather finely recticulate appearance, and also, some of the scapola tubes have the slits on the walls rather shorter and approach in appearance the tubes of Belladonna just mentioned.

The material examined consisted of twelve exlracts, Nos. 1 to 12, submitted to me for examination as extract of bellaonna; one extract of belladonna root, No. 13, two extracts of belladonna leaf, Nos. 15 and 16, one extract of scopola root, No. 14, all purchased in origional packages in the open market, and an extract of belladonna root, No. 17, an extract of scopola root, No. 18, and an extract of bellydonna leaf, No. 19, all personally prepared from selected drugs according to the U. S. P.

EXAMINATION OF BELLADONNA EXTRACTS.

No	Microscopic Examination of Whole Extract.	Microscopic Examination of Precipitate.	Color Sol.	Conclusion.
1	Crystals, little starch, very little fixed oil.	Several pieces scopola, some charred masses.	Dark brown.	Scopola root.
2	Crystals, some starch, much fixed oil.	Several pieces scopola, few pieces belladonna.	Brown.	Scopola and belladonna roots.
3	Crystals, no starch, much fixed oil.	No tracheal tissue determined.	Light brown.	Belladonna root (?)
4	Crystals, some starch, much fixed oil.	Four peices belladonna.	Straw color.	Belladonna root.
5	Crystals, some starch, very little oil.	Several pieces scopola, two pieces belladonna.	Dark brown.	Scopola and belladonna roots.
6	Crystals, some starch, very little oil.	Many charred pieces, much extraneous matter,	Dark brown.	Scopola root. (?)
7	Crystals, little starch, very little oil.	Several pieces scopola no belladonna.	Dark brown.	Scopola root.
8	Crystals, very little oil or starch.	Several pieces scopola, no belladonna.	Dark brown.	Scopola root.
9	Crystals, little starch, considerable oil.	Three pieces scopola, several pieces belladonna	Light brown.	Scopola and belladonna roots.
10	Crystals, some starch, very little oil.	Several pieces scopola, no belladonna.	Dark brown.	Scopola root.
11	Crystals, some starch, very little oil.	Several pieces scopola, no belladonna.	Dark brown.	Scopola root.
12	Crystals, little starch, very little oil.	Several pieces scopola several pieces belladonna	Medium brown.	Scopola and belladonna roots.
13	Numerous large crystals, much oil.	Two small pieces belladonna.	Light brown.	Belladonna root.
14	Numerous crystals, much oil.	Two pieces belladonna. Two pieces undetermined.	Light brown.	Scopola and belladonna roots (?)
15	No crystals, no starch some oily chlorophyll	Two pieces epidermis, one small spiral duct.	Dark green.	Belladonna leaf.
16	Large irregular crystals, little greenish oil.	No tracheal tissue determined.	Brown.	(?)
17	Many crystals, much oil, no starch.	No tracheal tissue determined.	Straw color.	Belladonna root.
18	Crystals, no starch, some oil.	Teveral pieces scopola.	Light brown.	Scopolla root.
16	No crystals, no starch, some oily chlorophyll.	Four small pieces bella donna.	Greenish brown.	Belladonna leaf.

In the above tabulation "pieces" of scopola or belladonna refers to pieces or masses of characterisc tracheal tissue as previously described.

Referring to No. 3, one of the commercial extracts, would say that this extract yeilded no tracheal tissue after repeated trisls. However, as it contained numerous crystals characteristic of the root extracts and much fixed oil characteristic of belladonna root extract, it is probably belladonna root extract. No. 6 contained such a mass of black, charred pieces and so much extraneous matter that it was impossible for me to separate out characteristic tracheal tissue and my conclusion that it is scopola root extract is open to question.

Nos. 13, 14 and 15, labeled "Extract of Belladonna Root,"

"Extract of Bellaeonna Leaf," and "Extract of Scopola." respectively, over the name of a well-known pharmaceutical manufacturer, contained but little tracheal tissue and no cearred matter. However, the extract of scopola certainly contained belladonna extract if it was not all belladonna.

No. 16, labeled "Extract of Belladonna Leaf," produced, upon mixing with dilute alcohol, a copious, white precipitate, insoluable in water or alcohol, but soluable in acids without effervescence. Under the low power of the microscope this powder appeared as large irregular crystals. Upon ignition the ash amounted to nearly 10 per cent. It contained magnesia. No tracheal tissue was determined in this extaact. though from the presence of a very little greenish oil it is probably leaf exract.

Referring to Nos. 17, 18 and 19, the extracts which were carefully prepared in the laboratory, using filter paper beneath the powdered drug in the percolater, would say that the amount of cellular tissue preseut was smal, but sufficient cearabteristic tracheal tissue was obtaind from each extract but one, the belladonna root extract, to identify the extract.

THE FIXED OILS FOUND IN THE EXTRACTS.

Some of the powdered belladonna root from which the extract was prepared according to the U. S. H., was extracted for six hours with petroleum benzine in a Soxhlet extraction appaaatus to determine, if possible, the amount of fixed oil present in the root. Afler the evaporation of the bensine, a slight residue amounting to .75 per cent. remained and this appeared to be mostly a yellowish fixed oil. Some of the extract prepared from this belladonna root was extracted in a similar manner and yielded a residue, 3.26 per cent., most of which apppeared to be a fixed oil.

The amount of fixed oil is apparently greater in belladonna root than in scopola root, though the personally prepared scopola root extract contained more oil than the commercial scopola root extracts.

THE CRYSTALS FOUND IN THE EXTRACTS.

The crystals, apparently so abundant in the root extracts, were at first thought to be milk sugar added to the commercial extracts, but when the were found in the greatest abundance in the home-made extracts (both of scopola root and belladonna root) to which no milk sugar was added, it became evident that probably these crystals were not milk sugar. A portion of the extract of belladonna root prepared in the laboratory was dialysed for 24 houss and the dialysate tested for sugar. The solution gave a dextrogyrate read-

ing on the polariscope and reduced Fehling's solution. Quantitatively with Fehling's, it amounted as glucose to about 5 per cent. of the extract. Upon evaporation of a portion of the dialysate to constant weight the residue amounted to more than 15 per cent. of the extract. Upon ignition, the ash obtained from a portion of the dialysate amounted to .8 per cent. of the extract.

The amount of these crystals appears to be about the same in the scapola as in the belladonna root extracts, but the amount in some of the commercial extracts was much less than in the home-made extracts.

THE COLOR OF THE EXTRACTS AND THEIR SOLUTIONS.

The color of the extracts was quite similar, especially where the surfaces of the extracts as found in the jars were not cut into, the color being in all cases a very dark brown to black. Freshly-cut surfaces, however, varied somewhat in color, some being a darker brown than others and the leaf extracts showing a decided green color. The solutions or mixtures in in dilute alcohol, however, varied much in color, the root extracts ranging from a light straw color to a very dark brown, the leaf extracts showin various shades of green. At the first tabulation of the commercial extracts it appeared as though the solutions of the scopola extracts were uniformly much darker than the solutions of the belladonna extracts, but this I hold to be not stictly so, for the scopola root extract prepared by myself formed a solution nearly as light in color as any of the belladonna extracts.

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THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

CHICAGO.

VOL. XVI BATAVIA, OCTOBER 20, 1910 NO. 10

P. & S. BEGINS TWENTY-NINTH ANNUAL SESSION.

Leading Medical College of the West Now Under Full Control of University of Illinois. Over 500 Matriculate. Dr. Bernard Fantus Delivers Address of Welcome, Giving Valuable Advice to Students.

The twenty-ninth annual opening of the College of Physicians and Surgeons took place Tuesday, September 27th, 1910, when the principal address of welcome to new and old students was delivered by Professor Bernard Fantus, M. D., on the subject, "On Medical Study," at the College Assembly Hall.

Hundreds of students, faculty members and friends were present. Following the address by Dr. Fantus, remarks were made by Dean William E. Quine, M. D., LL. D. An orchestra furnished music for the evening's program and dance.

In the point of numbers the student body is not as large as in many previous years, but, on the other hand, in scholarship it is believed to be superior to any. Efforts are being made by the University of Illinois to place this department in the first place among the medical colleges of the world.

The first step toward this betterment of the college was the strict ruling regarding entrance, to which there have been no exceptions.

At the close of business on October 15th the enrollment was 502, of whom 171 were new students. By classes the enrollment was: Freshmen 115, Sophomores 125, Juniors 143, Seniors 100, Specials 19. In the Sophomore class there are 21 new students, in the Junior class 32 and in the Senior class 7.

The small increase in the Senior class is the result of the new entrance requirements. In former years many doctors came for a post-graduate course and secured "U of I" diplomas on one year's work. Only physicians who are graduates of medical schools in group "A" of the American Medical Association classification and schools recognized at the time of graduation by the boards of health of the states in which they are located, who have passed state board examinations, who have been in active practice for not less than five years, and who are in good standing in the medical societies of their cities, counties and states, and who come well recommended, may be admitted to the Senior class.

The University will give scholarships and time credits to new students from medical colleges which are included in group "A," as arranged by the American Medical Association and in the colleges of the Association of American Medical Colleges. The strict observance of this rule has resulted in the rejection of more than a hundred applicants.

During the summer the College of Physicians and Surgeons took over the American Medical Missionary School, of Battle Creek, Mich. Forty-one of its students were received by the P. & S., all of whom qualified under the rigid entrance requirements.

The following is **Dr.** Fantus' address in full:

ON MEDICAL STUDY.

MR. DEAN, MEMBERS OF THE FACULTY, MEDICAL STUDENTS, FRIENDS:

At this auspicious moment, the beginning of a new college course, for some of you the beginning of your medical career, I wish to address myself most especially to you students of medicine, whose coming is the cause of this evening's assembly.

Congratulations to you on the choice of your profession, than which there is none grander or nobler. You are here wishing to enter this great profession; and we are here willing to serve as your guides. There is only one path, though neither straight nor narrow, by which you can enter it; it is the path of study. Ere we plunge into the mazes of study before us it might be well that one who knows the road give you some advice on how to travel it. Therefore a brief discourse on study in general and medical study in particular may be appropriate on this occasion.

If I be permitted to use a homely simile, I would say that studying is a good deal like eating; it is nothing more or less than feeding the mind. And I find that, to some extent at least, the rules of eating apply to study as well. With these assertions some of you might disagree at the very outset. You might say: Isn't eating pleasure, and study work? To which I merely need answer: Try to eat without appetite. Of course, study is hard work, if you have no desire for it. A true hunger and thirst for knowledge make study a pleasure; indeed, the greatest of all pleasures. The very fact of your presence here to-night I take as an indication that you have this hunger and thirst for medical knowledge. If there be any among you who do not have it, pray go home. You are not in the right place. Verily, I say unto you, you will need great hunger and thirst for knowledge to be able to relish the chewing of dry bone anatomy or the swallowing of the materia medica.

However, civilized man, even if he have a fair appetite,

likes to have his food well cooked and served in an appetizing manner. And this, in studies, is the function of the teacher. The books give you all the facts; and the teacher would be entirely superfluous were it not that he can make these facts more palatable and more digestible to you. A good teacher, like a good cook, adds flavor and spice. The comparison of the teacher to the cook brings out very well the share that the student must take in assimilating knowledge. It is just as impossible for the teacher to study for you as it is for the cook to eat for you.

I believe in lecturing. A good lecturer can serve a subject in an appetizing manner. But there is a danger in lecturing; and the better the lecture the greater the danger; it is, that it deludes the hearer into thinking that he knows the subject. No one can digest and assimilate the subject-matter of a lecture dealing with an unfamiliar subject of any complexity without critical home study. Right here let me advise you regarding note-taking. Nothing is more pitiable to me than the strained attitude I notice during lectures in so many students who are trying to take down the lecture verbatim, on the supposition that what one has black on white can never be lost to one. But while getting it that way they are losing the spirit of the lecture and the inspiration that they would have derived from it. Nothing is more barren of true results than the parrot-like repetition of often miscomprehended words that results from the studying of such notes. On the other hand, it is highly advisable to take during lectures a brief note now and then, in outline form, by means of which, with the aid of the text-book, the student may be able to reconstruct mentally the lecture he has heard. The student's aim during lectures should be to obtain an understanding of the subject; for what is well understood can be studied with ease and pleasure.

Frequently do I hear students complain that they are afflicted with a poor memory. Now, while I admit that there are differences in the retentive qualities of different

minds, I am sure that the main difficulty in most cases lies in faulty methods of study.

The permanence and availability of knowledge is in proportion, first, to the intensity of the impression; secondly, to the frequency and duration of the exposure of our brain to it; and, thirdly, to its assimilation—that is, correlation—with the other facts already in our mind. Let us examine briefly each of these three factors, for an understanding of them forms the essence of what I wish to impress upon your minds this evening.

Facts unconnected with each other do not constitute knowledge any more than a pile of bricks constitutes a house. To be useful, facts must be set straight and true upon the ground of our past experience, and must be cemented together with each other in a logical order. We must be critical in study. We must not accept anything that is in conflict with our past experience without fighting the conflict to the finish, no matter whether it results in the reshaping of our ideas of the past or in the remodeling of our understanding of the new fact. We must also think about the new fact from as many different angles as possible, whereby it forms as many different associations, by means of which it can be found when wanted.

Outlining is a great aid in studying, as well as an excellent means of refreshing the memory in reviews for quizzes or examinations. It is valuable only, however, if done in such a way as to have a minimum number of words represent a maximum of ideas. If possible, one word should be chosen that will bring back to your mind a whole paragraph. The more words there are in an outline the poorer it is. The very devising of the outline is beneficial, as it impresses facts upon the mind; and to him who devised it, it is capable of recalling to mind a great deal that is not in the outline. Both benefits are lost to him who uses another's outline. Indeed, an outline is of little value to anyone, excepting to him who made it.

It takes time to do these things; but time is necessary to

make things stick in our mind. I believe that the permanence of knowledge is duplicate rather than in simple proportion to time; that when we dwell upon a subject twice as long the permanence of the impression it leaves will be much more than twice, possibly four times, as great. It pays, therefore, to take time to study.

But time without intensity counts for nothing. There are few things that can be done with the expenditure of less mental energy and with less profit than reading without interest and without attention, which so often passes for studying, most especially in "cramming" for examinations. Knowledge thus presented to our brain runs off like water from the proverbial duck's back. Herein lies most commonly the difference between him who can remember easily and him who can not; that the former studies intensely, the latter languidly. It is worth our while, therefore, to try to understand how to increase intensity in studying.

The act of engraving new facts upon the mind requires energy as truly, though, of course, not nearly as much, as the engraving of words or pictures upon stone. Mental energy, that most precious of all human possessions, is a sine qua non for successful study. To maintain his mental energy at its best must, therefore, be the aim of every student.

So closely are body and mind united that you can not abuse the one without suffering in both. Good care of your body is necessary to get the best results from your mind. Next to adequate diet, the most important item in the hygiene of the student is adequate rest. Beware of indulging in your zeal for study to an excessive degree. It leads to exhaustion of your mental energy, lowering the intensity with which you study; and inasmuch as the time you must devote to your studies is in inverse proportion to the intensity with which you study, you are launched upon a vicious circle. You will find that you have to spend more and more time upon your study, that you must curtail your rest more and more, until finally you arrive at the stage of nervous exhaustion in which you are unable to remember anything. Even

if you do not permit yourself to arrive at this extreme, excessive indulgence in study destroys your desire for it, just as excessive eating spoils the appetite; and the only way of restoring it in both cases is abstinence for a sufficient length of time.

I am convinced that brain workers need more sleep than those who work with brawn. When a student habitually burns "midnight oil" and gets up at 6 or 7 o'clock in the morning, he is dissipating mental energy faster than it can be generated in most of us; and he must sooner or later suffer in consequence. Even the immediate results are poor. When your mental energy is at a low ebb, as it usually is at midnight, when you have to prop your eyes open in order to keep them from falling shut, the intensity of study is correspondingly low; and, only too often, what was studied at midnight is forgotten by morning.

Still worse is the practice of taking stimulants, such as coffee, in order to keep awake when you ought to sleep. Your immediate results may be better; but you are practicing a species of slow suicide, for you are using up your reserve nervous energy, which is the thing that keeps you alive. You are on the direct road to neurasthenia. The shores of life are strewn with professional wrecks due to this cause. The reason why some honor men turn out failures in practical life is that they consumed so much nervous energy in attaining high marks at school that they have not enough energy left to make a mark for themselves in the world.

Besides sleep, the student needs, like other workers, recreation or diversion to keep his mind bright. It is well to read good non-medical literature occasionally, after one's lessons are done. An occasional visit to the theater, or the hearing of sermons or non-medical lectures by eminent men is also advantageous. But the best recreation from indoor mental work is out-of-door physical pastime. Best of all, perhaps, a brisk walk to some spot favored with the beauties of nature. To give the eye, tired of close application to

the black and white of the printed page, the opportunity to refresh itself by sweeping over green meadows and shady woods; to give the body, cramped and bent over from working at the study table, a chance to straighten itself and to move freely; to invigorate the whole system with deep breaths of fresh pure air. Great is likewise the advantage of gymnastics, of athletic games, and of sports of various kinds; provided, however, that they are practiced in moderation. For physical work also consumes nervous energy; and it is impossible to work extremely hard with mind and body on the same day. Training for and participating in public exhibition games can not but react unfavorably upon a student's professional training. Such students are likely to be getting along backward, like Fritz Schnigglefritz, whose father was asked by a friend: "How iss your boy Fritz getting along in der college?" "Ach!" was the reply, "he iss half-back in der football team and all der way back in his studies."

We must beware of excess in any direction. Each of us has his own co-efficient of efficiency, which is the amount of work that we can do divided by the amount of rest and recreation that we need. This co-efficient may be lowered by excessive *rest* as well as by excessive work. Laziness has been defined as a premature sensation of fatigue. Some people, you know, have been born tired. Others are made tired by the work they ought to do, while they can expend an incredible amount of energy in almost any other direction. If you belong to either category of the lazy, remember that our coefficient of efficiency is, to a great extent, a matter of habit; and that as often with eating comes the appetite, so with work comes increased capacity for and enjoyment of work. Do not permit yourself to indulge in rest or recreation unearned by work.

I also believe in vacations. Putting aside one's studies for one or more weeks occasionally, during which time one must not permit one's self to study at all, adds zest to the study the rest of the year.

Not only do we need a good stock of energy for successful study, but we must also know how to concentrate it upon our work. To shut out irrelevant thoughts we must shut out as far as possible all extraneous sense impressions; for any sense impression is liable to start a train of thoughts in our mind, which, coming in collision with the train of thought we wish to keep in mind, may derail and demolish the latter. Hence it is not advisable to sit at the window in such a way as to have a free view of the street, of the court, or even of the opposite window; for any living thing that comes to view is liable to arrest our attention, and may put an end to an important sequence of thoughts. There are few whose power of abstraction is sufficiently great that they can study satisfactorily while riding in a street-car, or while a sewing machine is running in the same room, or a baby crying, or a conversation is carried on. And those who possess such great power of abstraction are likely to make themselves ridiculous by absent-mindedness, as is illustrated, you know, by the proverbial professor. Present company, of course, excepted. Not only stimuli from without, but also stimuli from within our body, are capable of interfering with attention; pain, hunger, thirst, sensations of heat or cold, uncomfortable position, etc. Hence, while studying, solid comfort for our body should be secured to the fullest possible extent.

The means just detailed are, however, only negative ways of favoring attention by seeing to it that it is not distracted. Over and above all, eagerness of mind for and interest in the subject are needed for intense study. This love for the subject I have postulated at the very outset. Still, it varies in degree in each of us toward the various branches in the curriculum. There undoubtedly exist differences in taste for studies as well as for food. Yet we must not neglect the less attractive studies. The best plan is to take up first, while our energy is best, the more distasteful of our studies; and to reserve for the last the studies that we are

most interested in; just as the most delicious dishes are served for dessert.

To become a good doctor more than book-study is needed; for medicine is an art based on science; and an art can only be acquired by doing. A medical education not only means acquiring a certain amount of knowledge, but also the developing of a skillful use of our senses and our powers. You must be ever eager to do things. For this the laboratories and the dispensary will give you ample opportunity. Dissecting should not only teach you anatomy, but also train you for surgery in making you skillful in handling of forceps and scalpel. The microscope should not only teach you bacteriology, histology and pathology, but it should also increase your powers of observation. The experiments of the physiologic laboratory should not only impress certain important facts upon your mind, but also train you in manipulating delicate apparatus. In the chemical laboratory you will learn how to conduct analytic inquiry. The chief end and aim of the therapeutic laboratory course will be to train you to write prescriptions. But over and above all do I consider the dispensary the most important of all practical courses. It is here where you get an opportunity to actually learn how to treat patients; how to talk to them, how to examine them, how to prescribe for them. It is here where you have an opportunity not only to see conditions of disease, but also to feel the living tissues, and to learn to distinguish between the feeling of the normal and of the diseased, as well as to hear the normal and abnormal sounds produced in the body. If there is one course that seems to be insufficiently appreciated by medical students it is the dispensary course. Sitting in the benches in amphitheater clinics, and having the teacher do all the work for you, is so much easier that doing it yourself, that most students prefer to flock to these clinics and shirk the dispensary work. There are exceptions to this. There are students who are wise enough to be quite insatiated for dispensary work, but there are not nearly enough of these.

One thought more and I will close. Study those around you. Study your professors. There are among them some of the most successful practitioners of this great city. It is a privilege to become acquainted with successful men and women; for we unconsciously are molded by the people we meet. It is still better to aid and direct the process consciously; and to pick out for imitation those characteristics that we admire most, and to try to avoid the faults that we discover even in the best. Study, also, your classmates. Remember that as you choose yonr friends so shall you be. Certain it is that the personality of each and every one of you will be changed by your associations in this institution. May this change be such that those who love you will bless the day you entered the portals of this school.

I hope that all of you are enthusiastically in love with medical study; that you all had a good vacation, and are brimful of energy. If you have these two requirements, you are entering upon what will probably be one of the happiest years of your life; and I wish you its enjoyment to the fullest possible extent.

AN ABSTRACT OF THE HISTORY OF THE DISCOVERY OF THE CIRCULATION OF THE BLOOD.*

By Joseph M. Patton, M. D.,
Professor of Clinical Medicine, Medical Department, University of Illinois; Professor of Internal Medicine, Chicago Policlinic;
Attending Physician, Cook County Hospital.

The common understanding of the history of the circulation rests in the fame of the immortal Harvey. This knowledge is strictly an academic experience, and few of us have an adequate conception of the pre-Harveian developments in relation to the circulation, or of the devious paths through which converging streams of ancient philosophy and mediæval medicine mingled their substance and formed the fabric

*Read before The Therapeutic Club, Chicago, June 21, 1910.

of half-truths from which the genius of Praxagorus, Erasistratus, Galen and Harvey separated the warp and the woof of substantial facts, which later formed the basis of our modern knowledge of the wonderful processes of the circulation—a knowledge without which medicine would still be in swaddling clothes and surgery an unknown art.

The earliest recorded views on the circulation of any value are those of Hippocrates. The fact that Hippocratian medicine represents largely a period rather than an individual, together with the probability that knowledge of physiologic processes must at that time have been gained only through chance observations on sacrificial votive offerings, or on injuries incident to war or commerce, makes it clear that the physiologic observations of the period were of the crudest character and most limited range.

Hippocrates was born in the Æsculapian Temple, on the Island of Cos, Greece, about 460 B. C. His father was Heraclides, of the order of Æsclepidæ, seventeenth in order of descent from Æsculapius. His mother was a midwife. Hippocrates noted pulsation in the aorta and pulmonary artery, without, as far as we can determine, an appreciation of its true character.

Aristotle, the first comparative anatomist (third century B. C.), who was a son of the physician to the king of Macedonia, evidently obtained his information from original and contemporaneous sources. He believed the heart to be the central organ, the seat of vitality, the place of elaboration of the blood and its impregnation with animal heat. The whole vascular system was regarded as a vase (hence the term "blood vessel") with ramifications extending through the entire system, so that the blood could come in contact with every part of the body.

The pulsation of the heart and the blood vessels was considered to be due to the expansion of the blood within them. No distinction was made between arteries and veins except as to size, structure and region occupied.

The pulmonary artery and veins were not regarded as

blood vessels, but as "channels" which conveyed "spirits" from the lungs to the heart. This idea of *pneuma* or *spirits* occupying the arterial vessels became more dominant after the time of Aristotle, and prevailed for several centuries. It probably arose from a combination of the fact of arterial emptiness in the morbid subject with the belief in an innate vital spirit, the co-operation of which with and through the agency of animal heat formed the dominant force of Aristotle's physiology.

The trachea was at this time known as an artery or an air tube.

The Island of Cos in the latter part of the third century, the period of 300-400 B. C., produced one of the most eminent medical men of the time, Praxagorus. That he was an original thinker may be gleaned from Cælius Aurelianus, who claims that Praxagorus advised laparatomy and section of the intestine for the removal of obstruction causing stercoraceous vomiting, the bowel to be afterward sutured.

Praxagorus drew a clearer distinction between arteries and veins than did Hippocrates, and showed that pulsation occurred only in the arteries.

The veins were regarded as blood vessels and the arteries as air tubes. The latter contained invisible gas or air (*pneuma*), of doubtful nature, but probably identical with the "spirits" of Aristotle and the *pneuma* of the later Alexandrian school.

The trachea was called the "rough air tube"—the first appearance of the modern term trachea. The French, at times, still use the term *trachee—artere.*

The rise of the Alexandrian school of medicine brought forth a number of men of more or less renown, among whom two stand out with especial prominence, Herophilus and Erasistratus. These men were the most famous during the third century B. C., the period of the reign of the first two Ptolemies.

Herophilus (335 B. C.) named the pulmonary artery the vena arterialis, and the pulmonary vein the arteria venalis,

designations which remained in use until the seventeenth century.

Erasistratus came from Iulis. He was prominent some twenty odd years after Herophilus. He did not escape the influence of the views of Praxagorus, and he still regarded the veins as containing nourishing blood and the arteries as transmitting *pneuma*. Of the latter he recognized two kinds: (1) *vital spirits*, derived from the inspired air and filling the heart and arteries; (2) *animal spirits*, elaborated from the former in the brain and cavities of the ventricles, and distributed by the nerves to the organs. This latter part of his theory was evidently the result of an attempt to formulate a physiologic theory which would fit into his discoveries regarding the nervous system.

He also described the heart valves and their action and named the tricuspid valves. The heart valves supplied the mechanism by which the organ alternately took in and expelled blood on the right side and *pneuma* on the left.

The chief advances through the investigations of Erasistratus was his view on the existence of "synanastomosis" between arteries and veins. He was, however, cautious not to allow his belief in such anastomosis to completely disrupt his allegiance to the older physiology, by specifying that such connection could only be possible under special conditions, which were usually harmful, such as plethora, or when an artery was opened.

Erasistratus obtained considerable reputation and a fee of 100 talents by prescribing the marriage of Antiochus and his stepmother, with whom the former was violently in love.

With the lapse of the next 500 years, a dormant and unprofitable period for medicine, we come to the activities of that great original thinker and acute clinical observer, Galen (born 131 A. D. at Pergamos). This was during the second century of the Christian Era, when the medical world was occupied by the argumentative proclivities of the medical sects known as the Dogmatists, the Empiricists, the Methodists and the Pneumatists. Out of the clouds of physio-

philosophical contention which filled the period we encounter with relief the clear-cut observations of Galen, stated with confidence and force and almost free from the burdening reverence for ancient dogmas which hampered his predecessors.

The chief advance made by Galen was the proof that the arteries contained blood instead of *pneuma*. He showed by experiments that if an artery was opened in the living subject blood would escape, and that if a section of artery were tied off and then opened between the ligatures the vessel would be found full of blood. These matters were presented in his publication, "Whether the Arteries Naturally Contain Blood."

Galen described the three arterial coats, their muscular nature, and the mechanical character of the heart action. The pulse was described as a "pulsatile force" in the wall of the artery, but derived from the heart. Thus the arterial diastole was active and its contraction passive. He described the fœtal circulation and the changes which occur in the circulation after birth.

Galen's physiology was much mixed, and still contained the old doctrine of *vital spirits*, which were carried by the pulmonary veins from the lungs to the left ventricle and added to the blood. The heart was still "the source and, as it were, the fireplace of the innate heat by which the living organism is directed and controlled."

He connected the functions of the heart and lungs and asserts the terminal anastomosis of the arteries and veins. Galen believed that some blood passed through the interventricular septum from the right ventricle into the left.

From the seventh to the fourteenth centuries, the period known as the Arabian Era, various physical, therapeutical and chemical theories held the field, and real advances were made in connection with the latter subject. For 1200 years after the death of Galen medicine proper was at a standstill. Human dissection was forbidden; experimentation languished. With, however, the advent of the so-called Ren-

naisance in medicine animal experimentation revived, dissection was resumed, and as a result further discoveries were made in relation to the circulation.

The revival occurred in Italy during the fourteenth century, mainly at Bologna, and Mondini, Carpi and Vesalius were the most prominent men of the period.

Mondini da Luzzi (1306) was called the "restorer of anatomy" because of his human dissections. He is said to have employed a barber to do the cutting while he pointed out the various structures with a glass rod. Mondini was mainly a follower of Galen in his physiologic ideas.

Da Carpi, who flourished two centuries after Mondini, made no medical advances of great importance.

Vesalius, who was born at Brussels in 1514, was the first in Europe to release himself from the effects of the teaching of Galen and attempt original investigation. He showed that the pulse was not dependent upon uninterrupted communication with the heart; also that the blood did not pass through the inter-ventricular septum. He intimated that the accepted physiology of the vascular system was not correct, and he also outlined the lesser circulation. His published works were illustrated by John Stephan, a pupil of Titian. If he had not given up the professorship of anatomy at Padua to go to Madrid as court physician he might have been the discoverer of the circulation of the blood.

Michael Servetus, religious reformer and physician, born in Spain in 1510, is most familiar to us through references from the pulpit, laudatory or denunciatory, according to our surroundings. His medical writings form the most singular episode in the history of the circulation. He was more of a theologian than a physician; more of a heretic than an anatomist. His medical views had no apparent connection with any of his predecessors or followers, yet he outlined one of the great primal truths of the circulation with remarkable perspicacity and confidence, and exhibited marked disdain for the views of Galen which clashed with his own conclusions.

In his "Christianismi Restitutio," a work devoted almost entirely to religious controversy, he described the pulmonary circulation and the physiology of respiration, and also the circulation of the liver. Apparently he jumped at conclusions which Vesalius had hesitatad to advance.

Servetus was burned in Geneva, October 27, 1553. Both author and book were soon forgotten, and his fame was only revived in recent times because of his obstreperous heterodoxy towards the theology of the day.

The sixteenth century shows an awakening to medical truths which were promulgated chiefly at the centers of medical learning—Padua, Pisa, Pavia, Bologna and Rome. This period is called by Dalton the "dawn of the circulation." Besides giving us the work of Colombo, Cæsalpinus and Fabricus, it saw the birth of Harvey.

Colombo was an apothecary of Cremona. He described the conversion of venous into arterial blood in the lungs and its delivery to the left ventricle. He said, evidently in ignorance of the views of Servetus, that "no one even hinted at this truth."

Colombo elaborated the pulmonary circulation, though neither he nor Vesalius knew of the bronchial arteries, which were demonstrated by Ruysch in 1665. Colombo's views were mostly the result of animal experimentation. He said that "one learns more in a day from the vivisection of a dog than from reading Galen for months." Pare (1561) cites the views of Colombo and admits their probability.

Cæsalpinus described the circulation through the lungs; but he thought that the air in the lungs had only a cooling effect on the blood. He also believed in the transmission of blood through the inter-ventricular septum. These beliefs were advocated by Fallopius, Duret, Spigelius, Botalli, et al., but he does not seem to have made much impression on his contemporaries. Later authorities have accorded him some idea of the general circulation, such as of arterial supply and venous return, the pulmonary circulation and the action of the heart valves.

Hieronymus Fabricus, who followed Vesalius, at Padua, in the latter part of the sixteenth century, demonstrated the valves in the veins (1574) as a feature of the venous system. He called them "ostiola," little doors, and said that they were "so constructed in order that they may prevent its (the blood's) running pell-mell into the feet, hands or fingers and being impacted there."

The close of the sixteenth century leaves this subject still encumbered by the doctrines of Galen, in spite of the advances made by those whose efforts we have just considered. There still remains belief in the heart as the seat of vitality, the source of animal heat, of *vital spirits*, and of arterial blood. There were two vascular systems, both of which supplied blood to the body. For over fifty years, until after the publications of Harvey appeared, little attention was paid to these previous efforts at explaining the circulation.

Next to the period of Galen, that of Harvey is the most interesting and productive of any in the history of the circulation. Harvey was born April 1, 1578, at Folkstone, Kent, England. Within a few years after the appearance of his tract "On the Motion of the Heart and Blood in Animals," his views were subjected to active discussion, both pro and con. Those who based their criticisms on actual observations substantiated his views, and these have held ever since, with the exception of the minor particulars in which his errors were due to insufficient means of observation.

The stability of Harvey's views was due to the fact of their being based on actual vivisection experiments. When he first began these he remarked that he was tempted to "think with Frascatorius that the motion of the heart was only to be comprehended by God." His "Nature and Use of the Heart, and the Circuit of the Blood" was illustrated from dissections and animal experiments. He denied the presence of porosities in the septum ventriculorum, as follows: "By Hercules, there are no such porosities, and they can not be demonstrated!"

Harvey demonstrated the character of the heart's action, of arterial motion, the nature and action of the auricles and ventricles, the pulmonary circulation, the transit of blood from arteries to veins, and he was first to represent the heart as an organ for the propulsion of blood.

Harvey did not believe in a terminal anastomosis between arteries and veins, mainly because the methods at his command did not permit of his demonstrating this system. He assumed, therefore, "porosities of the flesh," in order to account for the passage of blood from artery to vein.

Four years after the death of Harvey this system was demonstrated by the founder of scientific pathology, Malphigi.

In 1661 Malphigi, who was then at Bologna, demonstrated the capillary circulation in the lung of the frog, with the aid of the microscope, so that, as he expressed it, "the circulation of the blood is evidently exhibited." This circulation was further demonstrated in the lung of the water newt by Molyneux, of Dublin, in 1684. Meanwhile Leuwenhoek had discovered the blood cells in 1674.

Injections for the study of the capillary circulation were found unsatisfactory by Malphigi. They were also used by Blancard, of Amsterdam, but Frederick Ruysch, of Amsterdam (1666–1729), developed this art to perfection, and with the improvement in microscopical technic the capillary circulation was fully demonstrated.

The demonstration of the capillary circulation may be said to close the history of the first phase of the physiology of the circulation. The second phase is still the concern of the physiologist today. This part of the subject having to do with the automatic, myogenic properties of the heart muscle, the innervation of the heart, and the recent advances in cardiac pathology, is far too extensive to come under consideration, even in outline, at this time. I shall therefore close with the well-defined impression of having but imperfectly presented the matter, especially the pre-Harveian elements of the history of the circulation.

MY TRIP TO THE WESTERN COAST.

By H. O. White, M. D.,
Professor of Anatomy in the Medical and Dental Departments of the University of Illinois.

On the 31st day of August of this year I started for the coast for a month's recreation. I always like to take a vacation once a year, and in this respect at least my students can corroborate the fact that I practice what I preach, for I always advise them to take a good rest after a hard year's work. Since I have been able to take a vacation (financially, I mean, for a vacation, no matter how near to your own home, is complicated with an expense) I never yet encountered such delightful weather, both going and coming.

One month before I started my intentions were not to stop over at any city on the way, but to speed directly to Los Angeles where my sick wife had been awaiting me since June, but I was subsequently glad to change my plans, since I recieved information that my wife was quite comfortable and feeling much better, hence I decided to stop over in a few of the most important cities, not because I am interested to learn the climatic, economic or even political conditions of other cities, not by any matter or means. What I am extremely anxious to visit in other cities is the medical colleges, hospitals, dispensaries, libraries and all institutions of learning, so as to compare notes, as it were, or interchange thoughts with men in the same capacity as teachers, particularly of anatomy.

My first stop was Denver, where I met many of my warm professional freinds, particularly Prof. Childs and his assistants of the Anatomical Department of the University of Colorado. The anatomical laboratories first claimed my attention, and accordingly when I announced my intentions to Prof. Childs, he very willingly and unhesitatingly took me to that department. The capacity of the whole medical department is quite limited, the buildings,

the lecture halls as well as the laboratories are small indeed, yet they are all well equipped for the training of the usual small attendance. My attention was attracted to the preservation of the dissecting material. One must not lose sight of the fact, that the geographical location endowed that city with a peculiarly dry atmosphere; hence, unlike in our own city, it is quite a problem to overcome this condition of affairs without any financial detriment, for the material often dries there so quickly that it renders it absolutely useless for scientific purposes. However, from the accumulated material I found there and its condition, one could easily conclude that they are succeeding, nevertheless, in furnishing enough dissecting material for their students.

Since institutions of learning are scarce between Denver and the Pacific coast, I decided to speed directly to 'Frisco. However, I stopped over on the way in several large cities simply for rest and recreation. 'Frisco proper, though the most cosmopolitan city on the continent, with its foreign section, totally alien settlements, is intensely American. No city is richer in amusements for the facilities of luxurious existence, palatial hotels, more modest inns, beautiful residences, interesting churches —among them the old Mission Delores—and fine buildings lend an air of refinement and prosperity. New buildings of the most modern construction and artistic architecture have replaced those which were destroyed in the disastrous fire of April, 1906, and industrious activity is everywhere noticeable. Chinatown will ever be one of the chief attractions for the tourist. In every direction spreads the panorama of beauty, the dark blue mountains of Angel Island and San Sabito, the brown steepes of Yerba Buena, and beyond, the mountains of Contra Costa, golden and lilac tinted, melting away into the distance. Across the bay, Oakland; Berkeley, the seat of the state University, which for the lack of time I failed to visit. Golden Gate park with its myriad flowers, and trees, its marvel of Japanese gardening and the spacious stadium is a wonder. One of the richest museums in

'the country provides an opportunity for days of surprises and interest. From 'Frisco I went to Los Angeles, my place of destination. This city is a rare combination of healthful enjoyment and business activity. It is a city of fruits and and flowers, of palms and pepper trees, of roses climbing to the housetops, the city of many parks and interesting drives. The mountains and the ocean are so near at hand, that in winter one can go sleighing in the morning, pick ripe oranges for luncheon, and revel in the surf in the afternoon.

After two days of complete rest and a few invigorating plunges in the ocean, I started to investigate the institutions of learning for I knew that Los Angeles, though a city of only 350,000 inhabitants, has two medical colleges, departments of two entirely distinct universities. I was not aware of the fact that Mrs. White before my arrival was perchance introduced to a local and, by the way, very popular medical student, who had already enthusiastically spoken of me to some of the leading medical teachers of his college, the Medical Department of the University of Southern California, and they, the teachers, were awaiting to see the "Big Man from Chicago." Accordingly that student introduced me first to Dr. Bryson, the Dean of the above mentioned institution, a very prominent and skillful surgeon, whose work I had an opportunity to witness. He certainly showed me all possible professional courtesy, and at once invited me to visit the County Hospital the next morning, where he was scheduled to hold a surgical clinic. I very gratefully accepted the invitation and promptly at eight o'clock I was on the scene. The County Hospital of Los Angeles affords accomodations for 450 patients. Situated as it is on a most beautiful elevation away from the business center of the town, it affords a most ideal location for such an institution. The grounds are abundantly forested with magnificent shade trees of several varieties and to such an extent that at a distance of about one-half a block from the grounds one would not anticipate the existence of a hospital of such magnitude in the

midst of so much vegetation. Very admirably are also laid out the well-graveled walks to the main entrance as well as all over the ground. Southern California is proud of its palm trees and justly so. Here, too, on the hospital grounds we find tall and apparently old palm trees spreading their foliage out widely thereby shading quite an area around them and adding much grandeur to the grounds. They greet one at the main gate and by their majestic stateliness and stability appear as though they were extending the most hearty welcome to every visitor. Flowers of different varieties and bushes of American Beauties, which are in abundance, add much to the elegance of the grounds. The buildings are well constructed, fire proof and sanitary in every respect, and the old structures are rapidly being replaced by new modern ones. I was conducted to the old amphitheater (two new ones are in the course of construction), where Dr. Bryson was already at work. Not wishing to disturb the operator, I sat down, incognito, among the students. I was not aware of the fact that among the internes of that institution, eleven in number, six are graduates of the College of Physicians and Surgeons of Chicago. At the head of the operating table was seated quite a stout young doctor, properly gowned for the occasion and faithfully administering the anesthetic, watching his patient's condition carefully, indeed. The surroundings of the operating room, the mode of procedure, the skillfulness of the operator and his assistants and his explanation of the various steps of the operation in question, particularly the anatomy of the region, claimed my attention and in consequence thereof did not recognize the anesthetizer at once. Futhermore, hospital attire very materially changes the appearance of some individuals. However, in a minute or two I knew it was Dr. L. H. Athon, of the last graduating class, of the College of Physicians and Surgeons of Chicago. The extreme intenseness of his look at me, flushed face and broad smile, indicated clearly the much surprised and pleased individual. He became restless, shifting around on his stool and

looking in every direction for something that I could not ascertain. He considered it apparently below his dignity to see his former teacher seated among the "common" people. Finally he attracted the attention of a gentleman whom he informed of my identity. This was Dr. Whittman, the superintendent of the hospital, also a graduate of the College of Physicians and Surgeons of former years. He approached me at once, introduced himself, and insisted I should go with him to see the various departments of the hospital, meet the "boys," and tell him everything about "the dear old P. & S. of Chicago," assuring me that we would return in time before Dr. Bryson terminated his clinic.

It was Dr. Whittman who informed me of the number of our graduates, in his hospital in the capacity, as Internes. As soon as we left the operating room the doctor led me into a corner of a side corridor, and stopping there fired the first question at me: "How is dear old Dr. Quine?" "Very well, thank you," said I. "I did not see him personally, before leaving Chicago, for he was out of town; but as far as I know, he is perfectly well and enjoying, I suppose, his much-needed rest in the country, though it was recently interrupted by his mother's death." "And, please tell me, is he just as impressive and noisy in his lectures now as when I attended school?" "I am sure he is," I responded, for the 'boys' tell me so." "You know, doctor," he continued, "when I attended P. & S., it was always said that when Dr. Quine delivers a lecture at the P. & S. the internes at the County Hospital can usually take notes. And the dear old Irish soul in the office; how is she?" "You mean Miss Heelan," I interrupted, "don't you, doctor?" "Yes; Lizzie?" said he, with an air full of anxiety and satisfaction. "Yes, Lizzie," he repeated. "To my knowledge she is well in every respect," I said, "although I had no chance to say good-by to her before my departure, as she was out on her vacation." "Is she just as busy helping and accommodating the 'boys' in every possible way?" "Yes, indeed," said I, "and more than ever, I am sure."

He then made a few more inquiries about the faculty at large, office force, buildings, equipments, etc., and we proceeded to the ward of the tubercular patients. This is a most beautifully located and equipped pavilion for the treatment of such cases. Dr. A. M. Charbouneau was the first one I *struck* there, hard at work making his morning rounds and administering to the patients' wants and necessities. I underline the word "struck," for he was actually so when he noticed me approaching him accompanied by the superintendent. Proceeding further, I eventually met Drs. Thomas, Rothwell, Jeffs of our own school, as well as the rest of the internes in the institution. Completing the inspection of every building on the grounds, we finally reached the main office, where our "boys" were awaiting me. Here we sat for quite awhile. and the "boys" kept me busy answering their inquiries about their alma mater, as though they had been out of school for a number of years, and every one of them, without exception, repeatedly inquired for Miss Heelan, and related the various accommodations and favors she rendered them while at college. "Why," said one of them (I don't quite recollect who it was), "that girl is one of the most valuable employes P. & S. ever had. She helped me as well as the others to straighten out some matters which without her I could never have accomplished. You certainly must not forget, doctor, to remember us to her when you return." "Thank you; I shall do so without fail," said I.

The "boys" then, as well as the superintendent, invited me to have dinner with them, and insisted that I come on Friday evening, when they would have a special dinner in my honor. To be sure I accepted the invitation, and expressed my gratitude for the honor. Accordingly I appeared at the appointed time for dinner, which was well prepared and beautifully served. I was actually astonished when after dinner they informed me that I must remain with them till late in the evening, as they had already arranged with the superintendent of nurses to spare as many nurses as possible in order to hold a reception and dance in one of the halls on

the hospital grounds. I was entertained royally that evening, and it was not till late that Dr. Jeffs brought me home in his automobile.

To be sure, my visit to the Pacific Coast, and especially Los Angeles, will remain indellibly impressed on my memory, and will ever afford me very pleasant recollections.

COUNTRY PRACTICE OPEN FOR DENTIST.

The following letter was received recently by Superintendent Browne from Dr. J. Scott Brown, in which he mentions a good opening for a dentist:

BURNETT, WIS.

DEAR FRIEND:

You doubtless wonder why the postmark is not Los Angeles, and I will say that I am surprised, too. We even had berths engaged for same, but decided to try Wisconsin climate, and the quiet of a little country town, and it seems to be doing the family some good. As for me, business opened up phenomenally.

This is a town of about 250, railroad crossing, with a fine farming community around. There had been no doctor here since March, the last man having made a good thing of it and moved away. There is no drug store, so I keep a fair stock of drugs, supplies and sundries. We have no dentist, and I have to send the dental work seven miles. There are frequent dental cases and some big jobs waiting. The cashier of the bank over which I office needs about $50 worth of work, and can not go elsewhere, as he is alone in the bank. If you could me a nice and capable dentist I would appreciate it and try to treat him right. He could office with me. New brick bank building, nicely furnished, hot water heat. By combining with me his rent, light, heat and phone bill would average about $8 or $9 per month. He could arrange to room here also, if he desired, as we would have four rooms, and one of them could be so arranged as to serve him at night if the expense of rooming elsewhere interested him.

If you find a suitable party kindly send him this way soon.

With regards to all the friends, J. SCOTT BROWN.

THE PHYSICIAN A MORAL EDUCATOR.*

By G. H. Van Dyke, M. D., Chicago,
Instructor in Clinical Gynecology, College of Physicians and Surgeons.

The Hippocratic oath has long since ceased, and with it the physician's prestige as a man of social influence. In earlier times, the man of science was also a man of culture, but to-day, in the division of labor, the scientific man is one thing and morals are relegated to another specialist, the clergyman.

That the physician is, and by rights should be, a scientific teacher and is best fitted to dispense a certain line of scientific thought, is admitted by all. He is looked to as guardian of physical good, the corrector of hygienic error and the preserver of the public weal. Nor are those who so look upon the physician often disappointed. Indeed, that the physician has done much more for the common good of man than has any other class of specialists is not to be denied. Why, then, is the physician not held in respect, equal, at least, to those whose lines of activity also come within the same sphere, but who are acknowledged by common consent to have done and to be doing less than he? Is there not some reason, lying perhaps close to our own door, for this highly undesirable and unnecessary condition?

To individual and public alike the physician is usually ready to advise against things of a physical or tangible nature, of a pernicious influence. Why should he fold his hands when moral, immoral or even religious questions and conditions are brought to his notice in a given case, that are assuredly the cause of disease, even indirectly, and content himself with the thought that the other specialist should get busy, too?

No one knows so well as the physician the real cause, other than germs, of many of the physical ailments. Then

*Read before the West Side Branch of the Chicago Medical Society, Oct. 21, 1909.

why not "magnify the office?" Why should the physican not do his *full* duty toward those who consult him? To the patient whose mental or physical habit is the real cause of the disase, can the physician feel that he has done his full duty when he has provided him with an intelligent prescription, but has not spoken in clear tones agaist the cause of his ailment? He would do so if it pertained to some contagion; why not equally when some habit of lust? Why not speak against any form of evil which brings a patient to the office seeking relief? Perhaps the physician's own moral sense is not as keen as it should be.

The one great reason why the physician's prestige is such a beggarly quantity is the fact that his own life is not the pure, clean life that is expected by the public, and which the public has a right to expect from the men who know things. "Thou that sayest do not steal, dost thou steal? Thou that sayest do not commit adultery, dost thou commit sacrilege?" Is it not a fact that the physician has lowered himself by indulging in the commonplace habits, from mere commonplace sins to the grossest crimes of the whole catalogue? He, with the brute, has run the gauntlet. Every crime that the low, dumb, brutish crook has committed has been indulged in by men of the medical profession. If proof of this statement is desired, I cite you to the criminal records of the state, any state in which you happen to live. You will see that the physician is by no means free from criminal conduct. In questions where his profession touches the social and moral status of the community, notice the apathy and utter disregard and lack of interest; also the disregard and dogged indifference in vital statistical reports.

Is the public unfair in not dividing with us a larger share of honor and trust? Is it not giving us our full due? Why should it be otherwise than fair? Is it in the face of the fact that we, as a class of public specialists, have made ourselves worthy of unqualified professional confidence that the public has arbitrarily withheld it from us? When we do as the charlatan does we must expect the charletan's reward.

When we belittle ourselves by defaming each other before the laity, we can neither ask nor expect its unreserved confidence. We must expect the absolutely inevitable: to "reap what we sow." When we do not and can not look our young men and women patients in the face and, with a tone that tells, admonish them against a habit or life of sin which brings the diseases upon them for which they seek our office and counsel, but find ourselves befouled by the same vice, habit or crime, are we any better than they? Simply because we have a smattering of scientific training is not sufficient in the mind of the public to cause it to admire the medical profession as such. Our lives are measured by the same great measuring rule that is universally applied, "by their fruits ye shall know them." After all, it is what is in the *life*, rather than in the head, that counts.

The remedy is clear and certain: a life irreproachable and well abreast of the best lives in the community, a character strong enough to resist the temptations to sin, which are placed in the way of the weaker and less responsible lives. Undaunted and yet unobtrusive rightness is the remedy. Could not something be done to infuse such an ambition into the hearts of the young men and women who are seeking the profession that would at least partially correct the only too evident state of morals, or lack of morals, among physicians? Or shall we close our eyes against this condition and look only for germs? If so, what is the justification of such a course?

There are two places, it seems to me, where good and effective work could be done, which would have a wholesome influence: 1. The necessity of the physician's living a dignified and responsible life should be taught with effect under the head of ethics in at least the senior year of every college course. This subject should receive the same conscientious attention as that of any other subject of the course. 2. State boards should exercise their powers more freely by revoking the licenses of those who deliberately and repeatedly lower

the profession by living immoral lives or committing acts of crime.

With no desire to appear either a pessimist or a calamity howler, it seems to me imperative that some recognition be given to the fact that reform measures are indispensable to the best interests of our profession. It is very commendable that leaders of education among us are insisting upon better preparation for entering the medical college and a higher grade of medical education on leaving it; but unless the moral standard is raised also, professional retrogression will inevitably continue. *The insatiable thirst for gain and an increasing tendency to avoid responsibility are two dominant mental states to be deprecated.*

"Ill fares the land,
To hastening ills a prey,
Where wealth accumulates
And men decay."

Let rascality, inebriety, law violation and open and flagrant quackery be sifted out. So long as the practitioner, apparently in good standing, continues to deceive his patients purposely and ingeniously, so long will the public look with a certain amount of distrust upon the profession. The patient justly looks for as much integrity in the man who holds his life and health in his hands as in his banker; perhaps more. And just in proportion as it is found wanting in that proportion will some other cult gain ascendancy. No better reason than this can be found for the existence of the numberless religious cults.

Let the ethics of the profession be given their deserved place in the interests of the student and let their violation on the part of the practioner be punished by excommunication and our profession will be raised to a dignity and influence that will be both ennobling and gratifying.

1525 Hastings Street.

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COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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Send contributions to Oliver S. Olson, Editor, P. & S. College, Chicago.

ABOLITION OF CLASS RUSH HEROIC ACT.

To the Class of 1913 belongs the honor of having abolished from the records of the P. & S. the disgraceful and barbaric custom of class rushing. It is undoubtedly forever dead, for no class in the future will attempt to revive it, as the stamp of disapproval of the faculty, the student body as a whole, and the public at large against it is so strong.

To carry out this measure required much courage and determination on the part of the entire class, and the spirit with which it was done has brought forth the applause of all fair-minded students of other classes. The Class of 1913 had to face many difficult questions in determining their course of action, and probably the most trying one was to convince

themselves that by such measure they would not be misunderstood and looked upon as cowards.

But they cast the die for "civic improvement" in college, and received the Class of 1914 with outstretched arms of friendship and fellowship, instead of with the savage onslaught characteristic of class rushes. In former years a most undesirable advertisement has been given the College of Physicians and Surgeons by these rushes, which, among some classes of people, has had a tendency to lower its reputation and to place a barrier before its graduates. Every step towards improving the condition within the school helps to improve the standing and reputation of the school and its students.

It is to be hoped that class rivalry will not exist in the P. & S , but that all classes, and every member of each class, will work for its common good, for then all will reap the benefit.

The following are the resolutions adopted by the Class of 1913, which ended the traditional class rushes:

To the Dean of the Faculty of the College of Medicine of the University of Illinois:

WHEREAS, It has been the custom of the Sophomore and Freshman classes of the "College of Physicians and Surgeons," from its earliest history, to have a barbaric class rush each year, the performance of which has given the school an advertisement of undersirable nature; and

WHEREAS, Such a custom has been dropped by all schools of high rating, due to the fact that it is only a relic of a dark age; and

WHEREAS, Many students have been severely injured in these rushes, in which one person may fall a helpless victim to a crowd of greater numbers, which in itself gives an unsportsmanlike advantage; and

WHEREAS, The present Sophomore class stands in a unique position to either maintain or abolish this custom; be it therefore

Resolved, "That since it is for the best interest and wel-

fare of our school, we, the class of 1913 of the Medical Department of the University of Illinois, do abandon and place our disapproval upon the annual class rush, and establish in its stead the precedent of giving to the Freshman class a cordial reception, believing, as we do, that it is more manly to give to a stranger a sincere welcome than to strike him from ambush."

CLASS OF 1913.

GET TOGETHER AND BOOST.

Opportunity for Members of Faculty, Alumni and Student Body To Do Something for the College. Support Your Own Publication, and Let Outsiders Know What It Is and What It Stands For.

As we are beginning a new collegiate year, let us show a little more loyalty to our college, and boost all we can for it. One good way to boost is to boost the college journal—THE PLEXUS.

This equally applies to the alumni and student body. THE PLEXUS, which has been the official organ of the college as well as of the alumni association for the past sixteen years, is not receiving the proper support, and the trouble lies either with the indifference of the students and graduates or with their lack of time.

Interest is being manifested among the faculty members and graduates, as is demonstrated by the many suggestions offered for its improvement. It is to be hoped that these suggestions will continue to pour in, and that they will be accompanied by a check to cover at least one year's subscription. Let the faculty men and the alumni show their interest by subscribing, thus helping to build up the paper. Then the management will demonstrate its willingness and its ability to carry out such suggestions as are practical for the good of all P. & S. men.

To make THE PLEXUS a success should be a watchword of the faculty, the alumni and the student body, for through it the college can get its best advertising. If the magazine is made attractive, containing articles by prominent men of

the P. & S., of whom there are so many, and notes of interest from students and graduates, it will be given greater circulation, which means a spreading of the fame of the college.

If you can not send in a subscription now, do the next best thing—send us some good article you have prepared, or some paper you haye read before your medical association. We will print it; and later, when it is more convenient for you, send in the subscription; it is only one dollar for a whole year, twelve issues.

There are many things that students can do to improve the college paper. They can write for it, talk about it with their friends, place their subscriptions for it, secure subscriptions from others, and finally they can be instrumental in getting advertisements.

Whenever purchasing goods from dealers in physicians' supplies, it is a good idea to ask them if they advertise in THE PLEXUS, and if they do not, ask them why. Convince them that THE PLEXUS is the journal for them to advertise in if they want good results. Then, also, patronize those who patronize THE PLEXUS, and TELL THEM YOU SAW THEIR ADVERTISEMENT. Do not give them the idea that you do not know what THE PLEXUS is, or that you never heard of it before. That is a poor advertisement for yourself, for your paper and for your college.

Everybody boost. If you can't boost, knock. A knock may do us good. But if we all work together and in harmony, we will be able to accomplish something for the common good.

SENIOR NOTES.

Some Seniors were saying the other day that it is easy to spot the fellows who have "a case" at home, because of their late return to school after vacation; and the longer a fellow stops at home the worse "the case."

If this is the true state of affairs, it is fair to suppose, at least, that Brines, Burt, Cabana, Elliott, Hagie, Harrison, Huyser, Smith, Thomas and Valentine have the so-called "case" in a fair degree; while a few, such as Boyden, Frog-

ner, Saunders and Stober, are badly afflicted, since the last named did not show up for nearly two weeks after school opened.

The class had the opportunity of attending a very interesting and instructive illustrated lecture by Dr. Lane, of London, England. Dr. Lane showed how occupation causes changes in the skeleton which are normal to the individual. He also illustrated the results to be obtained by operating for fractures. He cuts down to the bones, and after putting them in normal position, fastens the parts secure by means of metal plates and screws. Dr. Lane was a pioneer in this line of surgery, which at first met with considerable opposition, but is being more generally recommended and adopted now.

N. R. Sullivan is nursing a severe carbuncle, which is located on the back of his neck.

Seven new students have registered in the Senior Class. They are as follows:

Frederick L. Barber, from Creighton Medical College, Omaha, Nebraska. Mr. Barber spent one year at the University of Nebraska.

Dr. Gustaff H. Mundt, of this city, graduate of the Valparaiso College of Pharmacy in 1903; also of the Chicago College of Medicine and Surgery in 1906.

Dr. Shinichiniwa, of Tsu Ise, Japan, a graduate of Osaka College of Medicine of that city. He is also a graduate of the Tokio Hospital Medical College in 1905.

Dr. Adolph R. Joachim, of the Hahnemann Medical College, graduating in 1907.

Dr. Alexander Tullis, a graduate of Jenner Medical School, 1909.

M. H. Winter, from Medical College of the University of Iowa.

Jacob B. Leroy, from the Northwestern Medical College.

Messrs. Lane and Aycock, illustrious members of the

Senior Class, met the other day, and after the usual salutation the following conversation ensued:

Lane—"Have you got any credits? I have a couple."

Aycock—"I haven't found any yet."

Lane—"If I can only get a diploma I'll have plenty of patients, I know."

Aycock—"I find it takes plenty of patience to get a diploma. Say, Lane, what's the trouble with us, anyway—haven't we got the combination?"

And they walk off arm in arm.

JUNIOR NOTES.

With but a few missing from our ranks, the Junior Class is back for another year of strenuous toil. With us are many new ones, whom we welcome and offer the hand of fellowship.

Many of the professors in Sophomore work are keeping in close touch with some 1912 men. We hope this is a friendly interest!

Cupid was rather active during the past summer, for among the Juniors many felt the sting of his dart. Among them were N. L. O'Herrin, B. B. Parker, J. Bloom and C. H. Wieneke.

SOPHOMORE NOTES.

It will take some time for the Freshmen to learn that Superintendent Browne is plain "Mr.," and not "Dr."

Elbert Hubbard knows student nature. He says that when you are not up on a thing you are usually down on it.

Parliamentary procedure in our class meetings is a joke. It takes one hour to transact business which should take no more than fifteen minutes. The presiding officer doesn't seem to realize that parliamentary practice today is the result of two thousand years of experience. It has been found by trial and error that assemblies must conform to set rules;

rules that are crystallized common sense. He seems to take it as a personal affront when an individual insists upon the adherence to at least the most common, obvious, necessary elements of real parliamentary procedure.

We make the following suggestions for expediting the transaction of business at our meetings:

1. The chairman be supplied with a chair, table and gavel.

2. The secretary to sit at the same table with the chairman.

3. The secretary be required to take careful note of every motion, amendment, etc., as it is made, and to have it for ready reference for the chairman.

4. LESS PREACHING FROM THE CHAIR (about 100 per cent less).

5. The purchase of several copies of "Robert's Rules of Order," to be kept where they may be made use of by the class and by the presiding officer.

Having had a whole year in which to get accustomed to city life and customs, we sincerely hope that Aldridge has become sophisticated enough to know that it is dangerous to blow out the gas.

We reported in the May issue that McKinley, otherwise known as "Moxley," had gone to sleep for the summer. Quoting from Ecclesiastes, "Moxley" says that "the sleep of a laboring man is sweet." Our notion of the height of credulity is to believe that "Moxley" ever did a stroke of work.

The '13 cradle roll:

Cipriani.
Krasa.
"Fœtus."

THE SOPH. ALL STAR VAUDEVILLE.

A. Tananewicz, Badmerowski, Mitzenmacher } Irish Comedians.

B. Petty, Patton, Lundholm } Aerial Ballet.
C. McConack, McGuire, McKinley } Russian Dancers.
D. Comes—Impersonator.
(1.) A Student at Work.
(2.) A Real Medic at a Pink Tea.

The faculty approves of the abolition of the class rush. The president approves fifty dollars' worth.

The Freshmen nailed a flag to the pole, and it cost them five dollars to have it taken down again. "Who's looney now?"

To Comes belongs the credit of having shown a sense of humor. He suggested in meeting that the Sophs. hold a pink tea instead of a rush. After several days of incubation this bit of humor burst through the dense intelligence of some of our classmates. Even some of the Juniors began to see that Comes had said something funny, and they made the most of it. It bored us for a while, but now that the gag has grown whiskers, is moth-eaten and mildewed, and is still being dragged around, it becomes painful.

The Sophs. know from experience that it takes more genuine courage to overthrow a pernicious though well-established tradition than to capitulate to it.

The Cannery (apologies to B. L. T.): "For God's sake don't you forgit it."

"*Paradoxical as it may seem.*"

FRESHMAN NOTES.

A most notable event in the history of the Class of 1914 was its first election of officers.

On the morning of October 11 a meeting of the class was called by Chairman Everett. H. E. Peters was chosen president; C. E. Lindsay, vice-president; Miss Honda, secretary; H. E. Webb, treasurer; E. A. Brown, sergeant-at-arms, and E. G. Nadeau, editor.

It is generally believed that the class as a whole has shown creditable judgment in the choice of its executive members.

FACULTY NOTES.

Dr. and Mrs. F. D. Moore are touring in Europe. Word was received from them by Miss Heelan when they were in Belfast, Ireland.

Dr. D. N. Eisendrath spent the summer vacation in the Adirondacks.

Dr. H, O. White and wife enjoyed the summer in California.

ALUMNI NOTES.

Doctor, Mayor and Prohibitionist.

Dr. D. F. Dumas, 1902, was a recent visitor at the P. & S. Since leaving this institution he has been successful not only in his profession, but in political fields. Dr. Dumas is located in Cass Lake, Minn., a prosperous little city in the northern part of the state. His fellow-citizens honored him by electing him to the mayoralty of that city. In the recent movement on the part of the federal government to stop the manufacture and sale of intoxicating liquors in that city and the surrounding territory, in compliance with the terms of an old Indian treaty, which has not been revoked, Dr. Dumas took a prominent part. He has built up a large practice in Cass Lake, and has a hospital of fourteen beds.

Dr. Alexander Burke, 1909, has been appointed as assistant at the Ancon Hospital, Canal Zone, Panama. The hospital has an ideal location on the Pacific coast, and is the main hospital of the zone. It has from 1200 to 1500 patients all the time.

Dr. R. B, Essick, 1908, located at Murphysboro, Ill., made an auto trip to Chicago during the first of the month, and called on friends at the college.

Dr. H. C. Homer, 1898, of Greybull, Wyoming, visited at the college October 7.

Dr. C. C. Meyer, 1908, will locate at Wichita, Kansas.

Dr. C. G. Hansaker, 1908, is now on an Indian reservation in Nevada.

QUINE LIBRARY NOTES.

Gift of Class of 1910.

The committee appointed by the Class of 1910 to procure a suitable memorial of the class, in the shape of a gift for the library, took some time in discharging its duties, but af-

ter careful consideration a picture of Pasteur was purchased. The original is the famous painting by Edelfelt, and represents the scientist as he is at work in his laboratory. The library copy is a beautiful etching by Leopold Flameng. The picture hangs on the north wall of the reading room, and we hope that very many of the members of the class may find an opportunity to visit the library to see this beautiful class memorial.

To the New Students.

If there is any student who has not yet visited the Quine Library, we wish to urge him to go on a tour of discovery to the second floor, southeast corner, where he will find one of the best equipped departments of the Medical Department of the State University. He will find at his disposal about 14,000 volumes, numberless reprints, nearly 100 current periodicals, a large, comfortable reading room, well lighted and ventilated. The library is open from 9 to 5, and every student is invited to make daily use of it, whether to study the daily lesson or to do the most elaborate research work. The librarian is in constant attendance, and will be glad to assist in finding references, or in any way to help the student to make the fullest possible use of all the resources of the library.

New Books.

The following is a list of the books recently purchased for the library:

Cushney, Text-book of Pharmacology and Therapeutics.
Boston, Text-book of Clinical Diagnosis.
Ballinger, Genito-Urinary Diseases and Syphilis.
Adamis, The Principles of Pathology.
French & Williamson, Text-book of Practice of Medicine.
Bailey, Text-book of Histology.
Crandon, Surgical After-Treatment.
Bailey & Miller, Text-book of Embriology.
Fuchs, Text-book of Ophthalmology.
Chapin & Pisek, Diseases of Infants and Children.
Hischfelder, Diseases of Heart and Aorta.
Stewart, Manual of Physiology.
Morton, Essentials of Medical Electricity and Radiography.
Gray, Anatomy, Descriptive and Applied.
Winter, Text-book of Gynecological Diseases.

Dr. W. A. Pusey presented to the library a copy of Jettner's work on Daniel Drake and His Followers.

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THE ASSAY OF IODOFORM AND IODOFORM GAUZE.

BY A. H. CLARK.

In searching the available literature for a satisfactory method for the determination of iodoform in medicated gauze, and also for the assay of Iodoform, the method of Uts (Apoth. Ztg., 18, No. 98, Dec. 9, 1903, 869), and that of Gane and Webster (Merck's Report, 18, No. 1, p. 13, 1909), seemed to be the most readily applicable.

Uts dissolves the iodoform in spirit of ether, adds fuming nitric acid, an excess silver nitrate V.S., and heats until the of nitrous acid has disappeared. The excess of silver nitrate odor V.S. is then determined with 1-10 normal ammonium sulpho-cyanide V.S.

Gane and Webster dissolve the iodoform in alcohol and ether in the proportion of 3 parts of alcohol to 1 part of ether. Commercial nitrous acid is then added, the mixture heated, and the excess silver nitrate V. S determined with 1-10 normal potassium sulphocyanide V. S. Gauze, lint, etc., are exhausted with ether and the ethereal solution treated as described.

Both methods were found to give excellent satisfaction. In the effort to shorten the method, as applied to gauze, I found that it is not necessary to *dissolve* the iodoform in alcohol or ether; neither is the *fuming* nitric acid necessary. Boiling under a reflux condenser for one-half in the presence of alcohol and nitric acid, U. S. P., is sufficient to convert all of the iodine to silver iodide. By the use of alcohol alone a simul-

taneous extraction of the gauze and determination of the iodoform may be carried out, and this much easier than if ether is present. Using ether for extraction with water present, the temperature of the distilling flask must be carefully controlled or it will rise to such a point that when the ether siphons over and comes in contact with the hot water it will vaporize so rapidly that there is great danger of loss. There is no trouble of this kind if alcohol only is used. The following is the process in detail as finally adapted to the assay of iodoform:

The iodoform is added to 50 c.c. 1-10 normal silver nitrate V.S., to which has been added 3 c.c. nitric acid, U. S. P., 50 c.c. alcohol is added, the whole being contained in a 250 c.c. florence flask. The flask is now connected with a reflux condenser and heat applied so that it boils gently. The heating is best conducted by placing the flask in a water-bath so that the water in the bath is about on a level with the water in the flask. This procedure avoids any bumping or spattering. The heat is continued for one-half hour after the boiling commences. After allowing the flask to cool, water is added to make about 150 c.c., a little ferric ammonium sulphate T.S. added, and the excess silver nitrate V.S. determined with potassium sulphocyanide V.S. Each c.c. $\frac{1}{10}$ normal silver nitrate V.S. is equivalent to 0.0130 Gm. iodoform. The following experiments demonstrate the accuracy of the method.

A sample of iodoform was first procured of good quality and its purity determined by the Carius method. This sample was used in all the experiments recorded below:

Iodoform taken.	Silver Iodide weighed.	Iodoform found.	Per cent pure.
0.7011	1.2631	0.7048	100.52
0.5352	0.9632	0.5382	100.56

The sample was then assayed by the method as given above.

Iodoform taken.	Iodoform found.	Per cent pure.
0.3375	0.3386	100.33
0.2011	0.2017	100.29
0.1814	0.1819	100.27
0.2094	0.2095	100.05

The principle is applied to the assay of gauze as follows:

The gauze is placed in a Soxhlet extractor of about 60 c.c. capacity and the entire apparatus connected as usual, except that a 250 c.c. florence flask, containing the $\frac{1}{10}$ normal silver nitrate V.S. and the nitric acid, is connected with the extraction tube in place of the usual wide-mouth extraction flask. A water-bath is placed so that the flask is immersed

in the water as described above. Alcohol is then poured through the condenser onto the gauze in the extraction tube until it siphons into the flask. Heat is then applied to the water-bath until the contents of the flask boil briskly. The extraction is continued for one hour, when the flask is disconnected and, after cooling, the titration made as described above. Experiments were made in which a known weight of iodoform was added to plain gauze and treated as above described. The results follow:

Iodoform taken.	Iodoform found.	Per cent found.
0.211	0.2117	100.29
0.1953	0.1952	99 95
0.4336	0.4355	100.45

The method is, of course, open to the objection that in commercial gauze the alcohol might extract substances other than iodoform which will consume the silver nitrate solution and thus make the result too high. The absence of such substances would have to be demonstrated before assay is made. The method has given perfect satisfaction in a large number of determinations where the absence of interfering substances was known.—*American Journal of Pharmacy.*

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THE VALUE OF EHRLICH'S NEW DISCOVERY "606" (DIOXYDIAMIDO-ARSENOBENZOL.)*

By B. C. Corbus, M. D.,

Adjunct Professor of Genito-Urinary Diseases, College of Physicians and Surgeons, Medical Department, University of Illinois.

Originally the expression, "specific therapy" was understood in a purely chemical sense, which is evident from the fact that from olden times the administration of mercury, iodin, etc., was designated as specific therapy. More recently immunotherapy has laid claim to the same designation and has pushed the chemical into the background.

The two forms of treatment may come together in important points, since chemotherapy may also lead to the formation of antibodies, but there are very great differences. In immunotherapy the various antibodies are formed as products of complicated reactions on the part of the animal organism. These antibodies are strictly specific in nature and act exclusively on the respective bacteria or their toxic products. They do not of themselves exert any injurious action on the organism. For this reason the serum therapy represents the ideal of all forms of treatment, in that the protective substances kill the parasites without injuring the body, and therefore every thinking person will give preference to immunotherapy (whether active or passive) whenever it is applicable.

*Reprint, by permission, from the Journal of American Medical Association, October 22, 1910.

Unfortunately, in contrast to diseases due to bacterial action, in a whole series of infectious diseases the successful formation of antibodies in the required manner is impossible. This is particularly true for diseases produced by protozoa, malarial plasmodia, trypanosomes, piroplasmas and the pathogenic spirochetes. In these diseases the clinical course indicates that the healing reaction of the organism is seriously hindered by peculiarities characteristic of the parasites. In such cases we must attempt to kill the parasites chemically; the possibility of doing this is known. I need only refer to the use of quinin in malaria, mercury and iodin in sypilis and atoxyl in trypanosomiasis.

The substances employed, however, are poisons, and do not, like antibodies, leave the bodies unharmed. Hence the importance of the careful, detailed study to which Ehrlich[1] has devoted himself for a number of years. Ehrlich has found that certain chemical substances are particularly attracted to certain parasites; they are parasitotropic. Being poisions and capable of injuring the cells of organs, these substances are also organotropic, and there curative value in parasitic diseases depends on the existence of a proper relation between the parasitotropic and organotropic properties.

After many experiments in various directions, Ehrlich has finally succeeded in preparing a substance for the cure of syphilis in which, if it is used in proper dosage, the parasitotropic power sufficiently overshadows the organotropic to make the latter a negligible quantity. He has come to the conclusion, after years of animal experimentation that the most effective treatment consists in administering a single dose of such strength that it sterilizes the animal complelely by destroying all the parasites in the organs, and thus produce a complete healing or cure. This act of sterilization with one dose Ehrlich designates as "therapiasterilisans magna."

The chemical "606" was first tried in Professor Doctor

1. Ztschr. f. arztl. Fortbildung. January, 1909, No. 23, p. 1.

Konrad Alt's[2] clinic in Uchtspringe (Altmark) in September, 1909, by Dr. Hoppe. Twenty-three patients were treated, mostly syphilitic paralytics. The dose employed was 0.3 gm. The arsenic was eliminated slowly and found in the urine as late as the tenth day. Professor Alt asked Shreiber of the Alstadtisohe Krankenhaus in Madgeburg to try the remedy in recent syphilitics; twenty-seven patients so treated improved with astounding rapidity; the dose used, however, was still only 0.3 gm., half the quantity now given. Wechselmann[3] was the next to report, June 22, 1910. He gave 0.45 gm. to women and 0.6 gm. to men. At present Wechselmann has a record of the largest number of patients treated, something over 900.

The Virchow Krankenhaus in Berlin offers the largest field for experimentation. I can testify to the authenticity of the statement of Dr. Siesskind,[4] Wechselmann's first assistant, that spirochetes begin to disappear in from eighteen to twenty-four hours after injection. Here I saw at least seven babies that had been treated; the average age was ten days; the patients had macular eruptions, fissures and mucous patches. All showed a wonderful improvement in four or five days. Taege[5] has treated a syphilitic infant by injecting the mother; both improved. In 100 gm. of the mother's milk no trace of organic arsenic and only a trace of inorganic arsenic could be found. He concludes that the infant was influenced not by arsenobenzol, but by endotoxins. The substance has been given to mothers while the fetus was yet in utero without either producing death or causing abortion.

The results in secondary and tertiary lesions were equally brilliant. Wechselmann asserts that there is an increase in body weight. This is certainly true of the old cases in which there were tertiary manifestations; however, it was necessary in some refractory cases to give a second

2. Munchen. med. Wchnschr., March 15, 1910. p. 561.
3. Berl. klin. Wchnschr., July 4, 1910, p. 1261.
4. Personal observation.
5. Munchen med. Wchnschr., Aug. 16, 1910, p. 1725.

injection, which may have been due in part to the method of administration. He offers the explanation that the spirochetes may be stored up in the cutaneous, glandular, muscular or osseous tissues, and later find their way into the blood-stream. He showed several patients with syphilitic periostitis in whom the pain disappeared over night by crisis, as it were.

Lesser[4] in the Charite, while not having such an abundance of material, has handled his cases excellently. Up to the present time he has treated 160 cases. I saw one baby 3 weeks old in which the cutaneous lesions disappeared in five days. Here, also, a large gumma of the tongue had completely healed in a remarkably short time. One patient, with malignant syphilis with cerebral symptoms, in whom no cure was possible, nevertheless improved visibly. In each of his cases Lesser has resorted to only one injection. This, I think, is due in a large measure to the technic that is used. It is a modification of Alt's, and was judged to be the best by the numerous physicians who were in daily attendance. It is the technic that I am employing not only on my patients, but also on the patients who were referred to me by Dr. Ehrlich for treatment. A detailed description of the technic will be found below.

A. Neisser[6] has treated 126 patients. He asserts that in the total of 2,500 patients treated with "606," at the time of writing, not a single serious organic disturbance occurred which could be definitely attributed to the remedy. Its effect surpasses anything that has been used, even mercury and iodin. Like Lesser, he uses a solution that is as nearly neutral as possible; hence he never saw instances of severe pain. He says that the action of a neutral solution seems to be slower and more prolonged. H. Isaac[7], from the old Lassar clinic, says that there is an incomparable, often rapid, and thorough action of the remedy on spirochetes observable, and a

4. Personal observation.
6. Berl. klin. Wchnschr., Aug. 8, 1910, p. 1485.
7. Personal communication.

prompt absorption of pathologic-anatomic changes produced by them; he finds that lesions on the mucous membrane are most rapidly benefited. From all the prominent clinics in Europe most astonishing reports are published.

The specific has been tried only in a few cases of parasyphilis. In a limited number of tabetic cases, with girdle pains, etc., the relief has been prompt, but this, in the absence of a positive Wassermann, may have been due more or less to suggestion.

TECHNIC.

The surprisingly large number of different technics is indeed confusing, as each clinician seems to be endeavoring to attach his own special method to Ehrlich's discovery. The following are references to a few methods, all of which I have seen used: Those of Alt and Hoppe[2], Wechselmann and Lange[3], Michaelis[8], Kromayer[9], and the intravenous method of E. Schreiber and J. Hoppe[10]. I shall describe, however, only the technic of Lesser, for the following reasons: 1. The substance is the most easily kept sterile. 2. The method is the simplest to carry out. 3. It is the most lasting in its effects and most efficient in its results.

LESSER'S METHOD.

Take a graduated cylinder with ground glass stopper, in which there are about one dozen glass pearls to assist in mixing. Add "606" salt; immediately add 15 c.c. hot water; shake vigorously until every particle of the salt is dissolved; then add 2 c.c. normal sodium hydrate (NaOH) solution; a precipitate occurs. Then continue to add sodium hydrate solution in very small quantity, shaking vigorously after each addition until the solution begins to clear; then drop by drop until we have a clear solution. This should be neutral; if the cylinder does not contain 20 c.c. of solution, sterile

2. Munchen med. Wchnschr., March 15, 1910, p. 561.
3. Berl. klin. Wchnschr., July 4, 1910, p. 1261.
8. Berl. klin. Wchnschr., July 31, 1910, p. 1401.
9. Berl. klin. Wchnschr., Sept. 12, 1910, p. 1908.
10. Berl. klin. Wchnschr., Aug. 1, 1910, p. 1448.

water is added up to that amount. Then 10 c.c. of this solution is injected deep into the buttocks on either side, always taking care to cleanse the parts with soap, water and iodin.

In every instance patients should be sent to the hospital for treatment, and care should be taken that they rest for one-half hour after the injection.

Ehrlich lays great stress on the fact that no patient who has ocular disease involving the fundus, cardiac or kidney disease, should receive any of the specific.

Neisser[6] reports that the injection did not produce fever in non-syphilitics; the temperature rise in syphilitics (general reaction) is attributed to endotoxins liberated from the killed spirochetes. Vomiting occurred during fever occasionally. The vomitus was examined in four cases, and never contained arsenic.

In three cases Neisser[6] saw erythematous eruptions, which disappeared rapidly.

All investigators report an increase of leukocytes immediately following the injection.

Neisser[6] advises local treatment of syphilitic lesions, either excision or local treatment, with calomel in addition to "606."

THE CURATIVE EFFECTS OF "606."

The idea that Ehrlich's new substance will prove a panacea for every case of syphilis is a mistake, notwithstanding that after a single injection the spirochetes disappear from primary lesions in from twenty-four to forty-eight hours, and that old indolent lesions heal with remarkable rapidity.

The results are best divided into two classes: (1) immediate; (2) remote.

1. *Immediate Effects.*—In all primary lesions in which the sore is of the erosive type, if taken before a positive Wassermann is present one dose containing 0.6 gm. seems to destroy all the spirochetes. This is confirmed by Neisser[6].

6. Berl. klin. Wchnschr., Aug. 8, 1910, p. 1485.

Excision of the primary lesion, while fraught with some danger to the surgeon, accomplishes a great deal, as a large number of spirochetes are thus removed. This permits the specific to act in excess on any that may still be in the system.

In the cases in which the initial lesion is marked by extensive sclerosis a second dose has been necessary, because the substance in the circulation was not able to permeate the chancre on account of the extensive endarteritis present; so in this class of cases, whenever it is possible without undue loss of tissue, excision is demanded if we expect one injection to have its maximum effect.

The immediate results in secondary lues, if occurring early in the infection, are good so far as external manifestations are concerned, but in late secondaries it has been necessary to repeat the injection in some instances.

It may be possible in the future to give a preliminary treatment of potassium iodid in this class of cases, and clean house, as it were, thus bringing the spirochetes into the bloodstream. Previous treatment with mercury and potassium iodid does not, however, seem to have any effect on the efficiency of the treatment.

Tertiary lesions show the most marked improvement. This is due, as suggested by Ehrlich, to the fact that there are a large number of antibodies in the circulation, and one injection stimulates the organism in a wonderful manner. It may also be explained on the hypothesis that the strain of spirochetes is well-nigh exhausted in virulence, and that a little of the specific acts in a far-reaching manner.

I have intentionally omitted mentioning any of the other forms of syphilis, as the experiments were carried out in a large measure only in cases in which there were active, visible lesions.

Dr. Ehrlich[11] does not wish the specific tried at first on

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6. Berl. klin. Wchnschr., Aug. 8. 1910, p. 1485.
11. Personal communication.

any except the most suitable cases, knowing full well the danger of complications in patients who are already debilitated by disease.

2. *Remote Effects.*—We have now been treating syphilis many hundreds of years with mercury, and our knowledge in regard to its efficiency or inefficiency is well established. All reports that are published on the new discovery must be regarded as preliminary, because in syphilis, more than in any other disease, freedom from relapses for years is necessary before a cure can be established.

At present our success in healing syphilis with mercury has been obtained by an extremely energetic treatment, begun early, our aim being to get a negative Wassermann and to keep it negative throughout the whole time.

If we have in "606" a specific that in one or two doses will kill all the spirochetes in the system, then we have indeed a wonderful remedy.

But how can we tell?

THE WASSERMANN REACTION.

In the light of our present knowledge, the only hope lies in the Wassermann reaction. With the Wassermann reaction, under mercury treatment, it was possible with a fair degree of certainty to tell when we had the disease under control, but unfortunately after the administration of "606" we have a different picture. Here we have a large number of dead spirochetes in the system and a hyperleukocytosis, and we may have a persistent positive reaction; on the other hand, a few spirochetes may be living, and later be so insignificant as to permit a negative reaction, and still later a positive one.

If we are to make use of the Wassermann test—and this seems to be the only method now at hand—we shall have to wait until numerous statistics are available before we can draw definite conclusions.

On the continent every well-regulated clinic has at least one or two Wassermann laboratories, and reports are begin-

ning to appear. Professors Alt and Hoppe[2] were the first to report Wassermann findings. Of the original twenty-three patients, mostly paralytics, out of eighteen cases with a positive Wassermann, two became negative after one injection of 0.3 gm. "606." There was strong diminution in two others, and noticeable diminution in three.

Neisser[6] reports on primary lesions treated soon after infection that only 10 per cent. of patients with positive Wassermann became negative, but the dose was only 0.4 gm.

Schreiber[9] and Hoppe report that of fifty-two patients treated and observed for fifty days or longer, 84.6 per cent. lost a positive Wassermann. Four other patients lost the reaction later, making 92.3 per cent. The earliest change from positive to negative occurred in four days, the longest after seventy days. In one patient treated intravenously the Wassermann became negative in forty hours.

M. Meyer[12] reports sixteen cases, of which twelve were cases of paralysis. In four of the twelve the Wassermann was not affected (dose too small); in four it became less decided for a while; in four treated intravenously it became at once negative. There was no marked improvement of the paralysis.

Karl Lange[13] reports 268 patients treated.

In 153 cases in which the Wassermann was first positive, it became negative four or five weeks after treatment; nine negative cases treated with mercury before "606" was injected, remained negative; two cases of primary syphilis previously negative, treated with the substance remained negative; five cases of tertiary syphilis became positive after injection; two changed to negative, and one died with positive, two were still positive; two cases in which Wassermann had appeared negative became positive; one later became nega-

2. Munchen med. Wchnschr., March 15, 1910, p. 561.
6. Berl. klin. Wchnschr., Aug. 8, 1910, p. 1485.
9. Berl. klin. Wchnschr., Sept. 12, 1910, p. 1908.
12. Munchen. med. Wchnschr., Aug. 16, 1910, p. 1765.
13. Berl. klin. Wchnschr., Sept. 5, 1910, p. 1656.

tive, the other one partially positive; nine-seven cases remained positive.

We can see from the foregoing that the results of the Wassermann test up to the present time are very variable.

For a Wassermann test to be of value in a given patient it must become negative and remain so for at least one and one-half years; without this we are justified in not accepting any case as an absolute cure without the lapse of a long period of freedom from the disease.

CONCLUSIONS.

Looking into the future, it seems hard to prophecy what we are to expect from a single injection. In order that our results may fulfil the theory of Ehrlich's "therapia sterilisans magna," the following conditions are necessary: First, one must not administer "606" in any condition that is not of spirochetal origin. Second, there must be absolute certainty of diagnosis by means of the Wassermann reaction or by examination for spirochetes. Third, the most careful and painstaking technic in preparing the substance for injection and in the injection itself must be observed.

EHRLICH TELLS ABOUT HIS "606"*

At the eighty-second session of German scientists and physicians, the Naturforscher Congress, just held at Konigsberg, one meeting was devoted to the discussion of Ehrlich's new remedy and he made the following interesting statements with reference to "606."

The specific action of the remedy was recognized in animal experiments and is shown especially by the fact that on the application of a sufficient dose the spirochetes disappear in from 24 to 48 hours. If the time required is longer, either the dose was too small or the spirochetes in question are immune to arsenic. The second fact which has developed is that specific antibodies are produced. It appears that

* Reprint of portion of Berlin letter to Journal of American Medical Association by its regular correspondent, October 22, 1910.

treatment with "606" furnishes an unusually favorable opportunity for the demonstration of these antibodies. The first important observation was that of the milk of a mother who was nursing a syphilitic child and was herself treated and cured with "606," had a remarkably favorable action on the child. A similiar result has been noticed in a large number of nursing women. The arsenic content of the milk is extraordinarily small, so that it is evident that the milk must contain antibodies which are received into the stomach of the child and absorbed. From other sources it is known that if the serum of such patients is injected in syphilitic children the symptoms of the disease disappear. While it is evident that specific antibodies are formed, Ehrlich is of the opinion that serum treatment alone is not sufficient for a positive cure. For if of a thousand spirochetes only a few survive, they are sufficient to prevent a complete cure. If children are injected with serum an extraordinarily prompt curative action is observed first; the exanthemata very promptly disappear. But after six or seven days other disturbances develop testifying that the antibodies were insufficient to destroy all the spirilla. It is therefore best to give such a child, soon after, a sufficient injection of "606" to kill the rest of the spirochetes.

The second specific action is on the Wassermann reaction which is certainly connected with the presence and growth of the spirilla. The very interesting observation has been made, that in certain affections a negative Wassermann reaction becomes at first positive under the influence of the injections. For instance, in chancres at an early period, the number of spirochetes is so small that they are not capable of producing a positive reaction. If now the previously negative reaction is at once converted into a positive one, evidence is furnished for the actual syphilitic nature of the disease. The importance of this reaction in the treatment with "606" cannot be sufficiently emphasized, he declared. If by the therapeutic action, only 100 out of 1,000,000 spirochetes survive, no reaction will occur, but every positive re-

action is to be regarded as analogous to a relapse and is therefore an indication for the repetition of the treatment with "606." Such cases should be examined at sufficient intervals and kept under observation. It would be very desirable if a modification of the Wassermann reaction could be made so that the practitioner could apply this important test to his patients.

A third action which is very hard to explain consists in the fact that the remedy often works with wonderful rapidity. The statement has been made from many sources that patients, for instance, who had not been able for months to swallow any solid food on account of disease of the fauces or tonsils could do so immediately after an injection. This remarkable rapidity of action is not to be explained by anatomic changes but depends on the removal of the pain, which was due to the action of the products of the secretion of the spirochetes; "606" acts in this case as an antineuralgic. On the other hand, it has been occasionally observed that increased sensitiveness occurs in some patients similar to what has been observed after mercurial injections. The first observations in this line come from Italy where extraordinary caution was at first used and doses of from 0.025 to 0.05 gm. ($\frac{1}{2}$ to 1 grain) were employed. The spirochetes recovered themselves after a short time; they were not destroyed by the weak remedy, but stimulated so that the result was a greater secretion of toxin. Ehrlich has always regarded the remedy as an arsenical and dangerous remedy and has therefore insisted on the necessity of a thorough preliminary testing of it. No one can expect complete harmlessness in a remedy which is to kill parasites. The mortality as a result of the remedy depends exclusively on the constitution of the patient, a law which holds for all dangerous remedies, even chloroform. Ehrlich has now reports of the use of "606" in 10,000 cases. The results have shown that "606" is not especially dangerous. In this large number of cases there is only one in which death immediately followed the administration of the remedy, and this was the case of a female

patient whose disease, tertiary syphilis, must have eventually resulted fatally. In this case the injection was made with the acid solution and there was a certain shock which would be avoided with the newer preparation. All other fatalities, of which the number might reach a dozen, occurred in cases of severe nervous disease, tabes and the like, in which the prognosis at least was very doubtful. If in such desperate cases unfavorable results ensue, it must not be said that the remedy is dangerous. Such extremely dangerous experiments must be undertaken if one has the conviction that he can save the patients in that way. Ehrlich does not consider the remedy indicated in cases of severe paralysis, for even if a cure resulted the patients could not be expected to become useful members of human society. A second contraindication is furnished by diseases of the heart and blood vessels in which one must be very cautious. As to the technic, the alkaline solution which was first introduced by Alt and Iversen has the slight disadvantage of being somewhat painful, while the neutral injection has the advantage of lessened painfulness. For that reason the neutral emulsion should be preferred in neurasthenic and alcoholic persons and in patients sensitive to pain. Probably in future a combination of both methods with the use of both intravenous and subcutaneous injections may be adopted. The dose depends on the nature of the disease. A general dosage cannot be given. In nervous affections 0.4 gm. (6 grains) should not be exceeded for these oversensitive individuals react very unpleasantly on the part of the heart and central nervous system. Moreover in these central nervous affections the number of spirochetes is very small and a smaller amount of the remedy is probably sufficient for their destruction. It has been established that from 16 to 20 per cent. of the paralytics have lost their Wassermann reaction. These patients have not regained the reaction in a period of two years and this fact gives a most hopeful outlook for the future. In general Ehrlich agrees with Neisser that one should try to give doses large enough to secure a cure by the first injection.

In a relatively healthy person a dose as high as 0.8 to 1.0 gm. (12 to 15 grains) or even higher can be given without danger. Finally Ehrlich notes that the remedy is also active in other diseases. Among these the most prominent is frambesia which is very nearly related to syphilis, next chicken cholera and certain forms of malaria. The fact has been independently established from various sources that a single subcutaneous dose was sufficient for the removal of fever in malaria. Also in two small-pox cases the remedy had an apparently favorable effect.

TUBERCULOSIS OF BONES AND JOINTS.*†

By Edward M. Brown, M. D., Chicago,
Adjunct Professor of Clinical Surgery, Medical Department of the University of Illinois.

It is the general belief among physicians and surgeons that if the cause of cancer were known the treatment of that disease would be revolutionized and its ravages easily within our control. It was so believed of tuberculosis on the discovery of the bacillus by Koch, in 1882, but the lapse of time has not proved it so. Although we have known the cause of tuberculosis for twenty-five years or more, the treatment of this disease, especially in the bones and joints, has not advanced so satisfactorily as might have been expected. The improvement in treatment along surgical lines has not been as great as we would wish.

It has been shown by Ely (Surgery, Gynæcology, and Obstetrics, 1, p. 561), who has done and is doing excellent work in this line, that our weak point has been ignorance of the fundamental facts that would enable us to reach logical conclusions, and that we have tried to substitute clinical experience for exact knowledge. His statement that we have neglected the study of the pathology of bone and joint tuberculosis is, I fear, only too true.

*Read at the meeting of the Mississippi Valley Medical Association, held in Detroit, September 14, 1910.

†Reprint, by permission, from the New York Medical Journal, November 5, 1910.

The profession today is not agreed upon any one line of treatment. Various methods have been advanced and supported by statistics, but it is generally agreed that the method employed must depend upon the nature and stage of the lesion, the age and social position of the patient, facilities for treatment, the individual experience of the surgeon, or that results must be accomplished by a combination of all available methods. (Whitacre: Journal of the American Medical Association, lii, p. 1378.)

An immense amount of good new work has been done in the operative line which has proved of definite value. A great deal is being done in the experimental line which has not yet had sufficient trial to reach reliable conclusions. It is my desire to bring before the members of this society, for the purpose of discussion and mutual benefit, as briefly as possible the modern methods of treating tuberculous disease of the bones and joints in a general way, the time allotted being too short to discuss the treatment of special joints.

The treatment of tuberculous joint disease is: *First:* General or constitutional. *Second:* Specific or serum treatment. *Third:* Local.

For practical purposes the local treatment may be divided into: 1, Injection treatment; 2, mechanical; 3, operative.

THE GENERAL OR CONSTITUTIONAL TREATMENT.

The importance of increasing the resistance of the patient to this disease in any form is now more fully recognized than ever before. The power of resistance is a large factor in determining the result as regards the function of the limb or the life of the patient. Under the best modern treatment death seldom results, but in a person of little resistance, or in the acute virulent type of the disease, the end frequently is fatal.

Fresh air. Out-of-door life is of the utmost importance. It is to be regretted that all hospitals or wards for the treatment of tuberculous bone and joint disease are not located in

the country rather than in the large cities. In the Convalescent Home of the Children's Hospital, fifteen miles from Boston, the children have lived and slept in open sheds winter and summer since 1903. The sheds are heated at 40° F., and the children are warmly clad, with ears and head protected. The effect has been an increase of appetite, general vigor and hæmoglobin. The local processes are also favorably influenced. (Communication of the Massachusetts Medical Society, xix, p. 303. Dr. Burrell.)

Alexander Primrose (American Practice of Surgery, iii., p. 585) states that the great advantage of this treatment is annually demonstrated in Toronto, where the Hospital for Sick Children transfers all its patients to summer quarters every year. He says: "It is not unusual to watch with anxiety a serious case of tuberculous arthritis toward the end of the winter in the hospital in the city, in the hope of tiding the patient over the necessary time until he is able to be transferred to the Lakeside Home, where one has every confidence that he will be benefited."

Brannan (Transactions of the International Congress of Tuberculosis, 1908, ii, 68) reports excellent results of the outdoor treatment at Sea Breeze Hospital, Coney Island. During four years 136 patients were treated; 63 were cases of spine and hip disease; 55 per cent were either completely cured or much improved when dismissed. Of 22 patients with advanced disease of knee or other joints, 73 per cent were cured; 23 per cent much improved.

E. H. Bradford (Ibidem, p. 204) relates most satisfactory results of open air treatment at Wellesley Convalescent Home of the Boston Children's Hospital, and observes that those suffering from the acuter forms were less benefited than those in a more chronic condition. He further observes that it is not manifest that sea air has any special advantage.

DeForest Willard (Ibidem, p. 257), Willy Meyer (Ibidem, p. 212), L. W. Ely (Boston Medical and Surgical Journal, December 6, 1907), H. A. Wilson (cited by DaCosta, Keen's Surgery, i, p. 635), Sinding-Larsen, of the Seashore Sana-

torium at Fredericksvain, Stockholm (Journal of the American Medical Association, xlvi, p. 634), and others in this country and abroad are unanimous in emphasizing the value of the outdoor treatment as one of first importance in the treatment of tuberculosis of the bones and joints. It is to be hoped that the present antituberculosis wave will accomplish something toward establishing suitable outdoor wards or colonies for the treatment of this form of the disease. In the meantime we must do the best we can with the conditions at hand. Keep the rooms of such patients open as much as possible. Put the patient on the roof, on the fire-escape, on the back porch, or in a tent in the yard. Some place can always be found better than the small, badly ventilated room in which we so often find these patients.

Diet. Next in importance to fresh air is a suitable nourishing diet. If we are to increase the resistance of these patients they must have the best food obtainable, and that properly prepared. When this plan is carried out we will find, as in one ill from any cause, that the appetite improved. It is probable that the rapid improvement noted in patients in open air hospitals is not only due to the increased oxidation and improved metabolism, and increase of appetite as a result, but to the fact that the patients receive the best of food, and that more frequently than the usual three times daily.

Brannan (loc. cit.) points out that at Sea Breeze the children are fed as often as six times daily. These patients, then, should not only receive the best of food, properly prepared, but should be urged to eat as frequently as possible. Easily digestible food of high nutritious value must be given patients having fever. By these milk and cream, with crackers, butter and eggs, can usually be taken, and to those who can digest it a mixed proteid, fatty carbonaceous diet, with a fair amount of vegetables and fruit, should be given.

Hygiene. Good hygienic conditions in the surroundings of the tuberculous are imperative for good results and the protection of others from the contagion. These patients

should be warmly clad for protection from changes of temperature. Wool or flannel should be worn throughout the year.

Although the danger of contagion from the disease in this form is somewhat exaggerated, it is well to see to it that all dressings from open wounds, sinuses, etc., are immediately burned. I have seen a family of four practically "wiped out" in which carelessness in this regard was at least a great factor.

Rest, exercise and massage. Rest in bed in certain stages of tuberculosis of joints is sometimes imperative, but the evil results therefrom are greatly mitigated if the room is very well ventilated and has plenty of sunshine, or the patient is in the open air. Patients with fever should not exercise, and patients without fever should not exercise to the point of fatigue. Short of this, exercise is beneficial (DaCosta in Keen's Surgery, 1, p. 634). Of course, rest for the affected joint is always imperative, and will be spoken of more fully later.

General light massage to the patient who cannot take excercise may be beneficial, but under no condition should an actively tuberculous area receive such treatment. I have seen tuberculous meningitis quickly develop in a child with early hip joint disease while under osteopathic treatment, the child succumbing within two or three weeks. In disease of this nature such manipulation is undoubtedly dangerous.

The danger of contracting bovine tuberculosis through the milk supply is a point on which there is much difference of opinion. There is no doubt but that the number of cases of infection from this source have been exaggerated, but as pointed out by Moss (Bulletin of the Johns Hopkins Hospital, February, 1909,) the danger of transmission of bovine tuberculosis to man is sufficiently great to warrant strict precaution against it.

Drugs. Drugs at best are of but secondary importance. Tonics are, of course, of some value. Certain drugs seem to

have a decided value in tuberculosis. Cod liver oil has long been recognized as being perhaps most useful.

Freeman (New York Medical Journal, XC. No. 26, p. 1270) is most enthusiastic in the use of succinimide of mercury hypodermically administered in the treatment of tuberculosis in any form. In his opinion, the only question which appears to remain for test is whether we might not have here a specific remedy for the disease, in all stages at which the tissues are not so broken down and disorganized that re-establishment is a physical impossibility. His method of treatment consists in beginning with $\frac{1}{10}$ grain of the succinimide of mercury, injected deeply every other day, gradually increasing the dose until slight tenderness of the gums or diarrhoea is produced, then reducing the dose until these symptoms subside and continuing for thirty injections. A rest of two weeks is then taken and the treatment continued as before. The indications for reducing the dose are given as (a) mercurialization; (b) sudden rise of temperature; (c) gastric disturbance and diarrhoea; (d) lost of weight or, in lung cases, excessive cough and expectoration, suddenly coming on before the symptoms are within control. Marked improvement has been noted both in lung and bone cases.

Wright, United States Naval Hospital, Las Animas, California (United States Naval Medical Bulletin, January, 1909, p. 46) confirms Freeman's views and points out, 1, that mercury acts as a tonic, increasing the vitality of the cellular portion of the tissues, and that it renders the blood bactericidal, producing an antitoxine therein that is directly destructive to the tubercle bacillus; 2, the action is cumulative and lasting; 3, the patient gradually acquires an immunity; 4, the mercury should never be used to the point of salivation.

It is probable that the facts are, as has been suggested by others, that in a certain class of tuberculous cases, notably among those in the army and navy, in which syphilis is quite often a complication, a degree of improvement under

such treatment is possible. That it has any marked effect beyond this is extremely doubtful.

SPECIFIC OR SERUM TREATMENT.

The use of tuberculin and specific sera in the treatment of bone and joint disease seems at the present time to be assuming a stage where it promises to be at least a valuable aid when properly administered. Ever since the introduction of Koch's tuberculin, and especially since the publication of Wright's technique, in 1903, the serum treatment has been tried by various investigators with varying results.

The application of the opsonic index theory to the practical treatment of tuberculous disease is affected by determining the opsonic power of the patient's blood and then using tuberculin as a therapeutic means to increase that power and thus enhance the bactericidal quality of the blood.

The vaccine usually employed is the tuberculin T. R. which is made from the finely triturated bodies of tubercle bacilli. Any of the tuberculin vaccines or sera may be used either by following the opsonic index technique of Wright or the practical method of Trudeau.

It was formerly held that the tuberculin treatment was contraindicated in mixed suppurative tuberculous bone and joint disease, but it has been recently shown in splendid work by DeForest Willard and B. A. Thomas (Annals of Surgery, li. p. 761) that excellent results may be obtained by alternating autogenous pyogenic bacterin and tuberculin inoculations in the treatment of such cases.

In speaking of the tuberculin treatment, J. B. Murphy says (Discussion: Annals of Surgery, lii. p. 137): "Great assistance is rendered by this treatment in cases of bone tuberculosis. There is, however, no more treacherous and dangerous drug than tuberculin if improperly given. As a stimulant and as an aid in surgical tuberculosis, I know of nothing so good when the treatment is carefully administered."

From personal knowledge, I know Dr. A. H. Ferguson

has found tuberculin a great aid in surgical tuberculosis, and the autogenous vaccines valuable in mixed cases.

Dr. A. D. Bevin (Discussion: Annals of Surgery, lii, p. 137) considers it too early at this time to arrive at any definite conclusions in regard to the value of the tuberculin treatment.

Alexander Primrose (American Practice of Surgery, iii, p. 598) holds that if we are to accept the theories promulgated by Wright, we have an explanation of the beneficial effects which may follow oparation in which the surgeon has only partially succeeded in removing the focus of the disease.

E. H. Ochsner (Illinois Medical Journal, xv, pp. 137-141, 1909) is convinced that when properly employed, vaccine therapy in joint tuberculosis has a threefold effect: 1, It reduces the mortality; 2, it hastens convalescence; 3, it improves the ultimate functional result.

W. G. Stern (Cleveland Medical Journal, March, 1909), after eighteen months' clinical experience with the use of Koch's tuberculin, observes that this vaccine, although a terrible agent for harm when used indiscriminately in large doses, is a powerful agent for good when used in small doses, either by the opsonic method of Wright or the clinical method of Trudeau. Notwithstanding the statements of the laboratory men to the contrary, no harm can come and a great deal of good can follow the proper use of tuberculin without the control of the opsonic index.

H. A. Wilson (American Medicine, Philadelphia) thinks tuberculin worthy of trial in bone disease, but only in the hands of those competent by training to use it. He thinks it has had sufficient practical trial to express an opinion as to its value.

Professor Sonnenberg, of Berlin (British Medical Journal, 1900, ii, 952), has made a study of the tuberculin and serum (Marmorek's) treatment, and finds that since he began its use he operates less. He thinks much experience and great care in the administration of this treatment is necessary for the best results. Alexander Marmorek, of Paris

(Bulletin d'Institute Pasteur). a few years ago produced an actively leucotoxic serum, for which much advantage over the old tuberculin was claimed. This serum is used both subcutaneously or by rectum.

Homeir (Munchener medizinische Wochenschrift, lv, p. 791, 1908), Hoffa (Wiener klinische Wochenschrift, xxi, p. 1317, 1908(, Sikimeier (Nederlandische Tijdschrift vor Geneskunde, ii, No. 18, 1908), M. Strauss (Munchener medizinische Wochenschrift, lv, p. 2169, 1908), and others report favorably on its value as a curative agent in bone and joint disease.

F. Gangholf (Wiener klinische Wochenschrift, xxii, p. 79, 1909) and Gruner (Ibidem, xxi, p. 1317, 1908) report disappointing results from its use. The latter, after treating eleven cases of tuberculosis of bones and joints in children, concludes: 1. Marmorek's serum effects neither in tuberculosis of the lungs nor of the bones a definite cure. 2. It does not prevent the spreading of the disease to hitherto sound limbs or joints. 3. It does not have even a favorable influence upon the general condition of the patient.

There is no doubt at the present time but that tuberculin properly administered is of definite value in the treatment of tuberculosis of bones and joints. While it is not absolutely necessary to closely follow the opsonic index as pointed out by Wright, the opsonic index should be watched at intervals during the treatmeut. A very small dase (0.001 mg.) should be given at first, its reaction carefully observed, and a proper spacing of the doees determined for safety to the patient, not to speak of good results. Patients with high temperature should not be given tuberculin until the temperature is within control.

As the temperature is often caused by mixed infection, the method advocated by DeForest Willard and Thomas (loc. cit.) of alternate administration of autogenous bacterins and tuberculin should be carried out. It is worse than useless to employ this method of treatment in chronic advanced tuberculous disease of various organs with beginning amyloid disease.

INJECTION TREAMENT.

Iodoform emulsion has been more extensively and universally used than any other preparation for this method of treatment. It is still being used by many, and abandoned as useless, or even dangerous, by others.

The method of preparing it, recommended by Cheyne, is as follows: The iodoform used for the emulsion should be allowed to stand submerged in a 5 per cent solution of carbolic acid for forty-eight hours the bottle being frequently shaken to insure the free access of the acid to the powder. Instead of using the glycerin alone, it is well to add 1-2,000 part of bichloride of mercury to it. The iodoform is strained from the carbolic acid and is mixed with glycerin in the proportion of 10 per cent.

The method of injecting consists in taking a syringe of suitable size, such as the Ferguson all-metal emulsion syringe, plunging the needle into the joint or diseased bone and injecting the emulsion.

We have had such excellent results following the use of iodoform emulsion in the clinic of Dr. Ferguson that we are thoroughly satisfied that the treatment has great value, especially in the early stage of the disease. Even in advanced cases we have frequently been surprised with remarkable results. Ferguson injects from one to four drachms in children, and in adults frequently much larger doses, these being repeated every two or three weeks. The emulsion is injected into the joint cavity, the articular border of the synovial attachment, or into the epiphysis, wherever the primary focus is located. The needle is plunged into all parts of the diseased bony focus, which is thoroughly impregnated with the emulsion. It has been pointed out by Ferguson and others that the scaly iodoform, rather than the finely powdered drug, should be used, as it is slower to be dissolved and absorbed by the tissues, hence has a more prolonged action on the bacillus, and is much less liable to produce iodoform poisoning.

(To be continued.)

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MEDICAL STUDENTS SHOCK VISITOR FROM SPOTLESS TOWN.

Disciples and future leaders in hygiene and sanitation fall far below high standard, says writer. Clamor for cleanliness without their domain, but themselves are filthy within. Why does the physician fail to secure confidence of patients?

The United States has perhaps the finest educational system in the world. The school boards use every effort to erect school buildings and colleges having perfect ventilation, large blackboard space, comfortable seats, placed so as to afford the best light for the pupils; in fact, every conven-

ience that they can conceive for the best development of each student. The ablest teachers available are appointed. Is the work of the board now complete? Not at all. Men must be employed to keep every nook and corner in the superb structure clean, for all will avow that it is the beautiful and attractive CLEANLINESS of the schools that impresses the visitors so favorably.

The first day he enters school the six-year-old is taught to doff his cap and to remove every particle of mother earth from his shoes. He is then ready to enter in a dignified manner. All through the eight grades he finds the old rule holds good. Moreover, during those eight years should he chance to excrete any sputum, consciously or otherwise, on the floors, halls or corridors, he is quickly arraigned before his teacher and principal, who send him for a cloth, and before his classmates, and under the scrutinizing eye of the principal, he must get down and rid the floor of the last speck of the excretion. Then he is subjected to a lecture on "Where to Spit" that he never, never forgets, unless, perchance, he matriculates in a medical school, where the UNWRITTEN law and INVISIBLE placards read:

WHEN YOU PLEASE
SPIT! WHERE YOU PLEASE!!!
IN ANY WAY YOU PLEASE.

To spit on the floors in cars, coaches, or on sidewalks, is forbidden—is, indeed, an act of indecency. However, in a school of medicine, Spit!

Special coaches on all railroad lines are reserved for the man who smokes. However, in a medical school, Smoke! Yes, anywhere—in the class rooms, halls and corridors, in the presence of ladies and visitors. Just Smoke!

Visitors, having stepped from a street-car where they have read in bold type "Don't Spit on the Floor," and entering a school of medicine, must certainly be appalled and chagrined at the smoke-clouded atmosphere, and at the

Spit to the right of them,
Spit to left of them,

Spit in front of them,
Spit behind them,
Drying or sizzling.

Think of the germ-laden air! Think of the danger of infection from the expectorator to his fellow-classmates from germs to which he himself is immune!

Should a physician be called to attend a victim of tuberculosis, typhoid feves or diphtheria, and find the floor of the sick room covered with sputum and the air clouded with tobacco smoke, how loudly would he bewail the unsanitary conditions, and vehemently prescribe the sputum thereafter to be expectorated into a cuspidor thoroughly disinfected with bichloride of mercury, 1 to 1,000. Nevertheless, when he attends the school of medicine *he spits* (anywhere)!

When the visitor returns home he casually remarks to his wife and family that from the advertisements and appeals for cleanliness he has seen,—which, without doubt, originated with medical men,—he had expected, upon visiting their institutions of learning, to be ushered into a fairy palace, where he should long forever to stay; but instead he was taken through rooms filled with tobacco smoke, and whose floors were covered with sputum. The family in turn tell it to their friends. So the news travels, and the physician wonders why his ideas on sanitation are not systematically carried out. *Perhaps the visitor could tell him.* The answer may be diagnosed from the story of the preacher who upon being accosted by a physician in his parish with the remark that he did not live up to his doctrines, could only weakly say that he wanted his parishioners to do as he said and not as he did. That minister wondered why his power soon died out. Don't you think that the physician could enlighten him?

Equally with the preacher may the doctor be the uplifting, purifying power and example in his community. What is it in humanity that calls forth our emulation? All will say that it is anything and everything noble, uplifting, inspiring and approaching the divine in a person. All contra-

dicting influences—as soon as discovered—become powerless, and die out as quickly, surely and completely as an unreplenished fire.

We think it is high time that medical men cease dozingly wondering why their ideas and facts are not heartily received by the laity. It is time that they, with one supreme effort, awoke and arose to meet the issue by nobly, honorably and openly "practicing what they preach." To be able to speak with a tone and life that tells. To know that a rule tnat is good for the ditcher is good for the doctor, and must be lived up to by each.

We realize the sacrifice of the students necessary to rid the P. & S. College of sputum and smoke. However, if the possibilities of the high calling of a physician are ever to be realized, self-sacrifice must play a prominent part in his life. We suggest that self be put in the background for the "common welfare;" that the class presidents, assisted by every member, begin crusades against sources of infection, especially against *smoke* and *spit*.

SALARIES FOR INTERNES.

In the October issue of the Chicago Medical Record the following appears:

"Internes in the County Hospital of Los Angeles, California, are to be paid a salary of $100 a year by a recent vote of the supervisors. The amount is not large, but there is some gain in the public recognition of the fact that faithful service should be rewarded even though the servant be a doctor of medicine.

"The burden of the care of the poor falls more heavily upon the time and the purse of the doctor than upon any other class of citizens. Los Angeles County, California, is not poor, neither is Cook County, Illinois, but both counties ever since they were founded have been accepting the service of physicians without paying any reward, and the same is true, so far as we are informed, of every other county in the country.

"The fault does not lie with the people who pay taxes. They have never yet objected to the cost of thoroughgoing and tender care of the poor and they never will. Some day the public will demand that this inequality of the burden of county and city hospitals be lifted from the shoulders of the medical profession, even if they have always uncomplainingly borne it and still continue to do so. The wardens and other necessary persons engaged in hospitals do not work without remuneration; and the wardens, incongruous as it is, are only occusionally selected from the ranks of the profession, which fact is in direct violation of all the ethics of the properly vaunted merit system of employment in public positions.

"If a lawyer, architect, or contractor serves the county he is paid a fee for his work and too often, we fear, the fee is a fat one. The argument that internes and attending physicians and surgeons gain experience and practice that in later years will add to their income is often true, but at best it is no more true of the doctors than it is of others who are employed in a professional way and are paid for their services in cash."

While experience is most desirable for a young medical man before he enters upon his own field, yet it is hardly just that as many conditions should be imposed upon him as are done by hospital authorities, especially in Chicago. Requiring a man to work in a hospital for eighteen to twenty-four months without remuneration, aside from board and lodging, is demanding too much.

The fault may be laid partially at the feet of the hospital authorities and partially at the feet of the recent graduate. The former realize that they can get the service of the new doctor gratis by magnifying the opportunities to learn more, while the latter, impressed by the advice of older men to get hospital service, practically sacrifice themselves at the altar of experience.

An interne is practically serving an apprenticeship, but his long schooling and thorough instructions in laboratories

have made him more valuable to those whom he is assisting than an apprentice in any trade can be to his seniors. Yet the common trade apprentice, without education, receives greater compensation for his work than the interne, with his many years of preparation.

There is something radically wrong somewhere. Either the hospital authorities should recognize the injustice of their dealings toward internes, or the internes and students should make demands for fair compensation. The laborer is worthy of his hire, and surely the interne is the hardest of laborers.

SOPHOMORE NOTES.

Sophomore, a wise fool.—Century Dictionary.

Our notion of nothing to encourage is the pest who borrows your "PLEXUS" instead of buying one.

HEARD IN THE PHYSIOLOGY LAB.

"'Moxley,' you will either supply the blood today or do the work."

"Well, I hate to do either, but h— I'd rather bleed to death than work; bring the stabber."

THESIS ON THE PHYSIOLOGICAL ACTION OF AN ISOTONIC SALT SOLUTION.

"Isotonic solutions is one whose physiological action is the same. Is of the same asmotic pressure. The solution separated by the the membrane are penetratcd by the membrane but the level of the solution are the same."

If any further information on this subject is desired ask Kobak. M.

SCIENTIFIC NOTES.

"Trypsin is secreted in the mouth."—Frank Oates.

"Pressure is fast in the pulmonary artery."—Bloomfield.

"There are two pulmonary veins."—T. Wilson.

"The right lung is longer, the left one is shorter."—"Your Uncle."

MUTILATED NAMES, OR THE NEW NOMENCLATURE, A[LI B. N. A.

Peatty—Paydy.
Trentzch—Treutch, Tootsik, Troosik, Tootey.
I. P. Rice or J. Rice—"And the other one."
Mrs. Jesperson—The Misses.
Miss Hergert—Tse, Tse.
Stein—Stem, Stew.
Coffler—Cufflah.
Comes—Combs.
Toweles—Tools, Touls.
Weil—Wheel, Wail.
Krassa—Liniment John.
Ray—Hip, Hip!
Ramus—Ischium or Mandible.
Earle—Turkey.
McClellan—Gallstones.
Golbeck—Greenback.
Aldridge—Senator.
Jones—Casey or Jocko.
Beem—Moon or Sun.
Badzmierowski—Bzzzzzzzzzz——oh, d——!

NAMES OF PLAYS.

"The Eternal Light"—Light (if he lives forever.)
"The Whole D——Family"—F. A., C. V., and G. H.
"A Fool There Was"—Coffler.
"The Little Cherub"—Luczak.
"The Joy Rider"—McKinley.
"The Man Who Made Milwaukee Famous"—Seymer.
"The Three Musketeers"—Aldridge, Barnett, Comes.
Three Men in a Boat"—Aldridge, Barnett, Comes.
"Three Little Maids"—Aldridge, Barnett, Comes.
"Three Graces"—Aldridge, Barnett, Comes.
"The Siamese Twins"—I. P. and J. Rice.
"The Siamese Twins"—Dougherty and Welch.
"Young Buffalo, King of the Wild West"—Aates.
"Little Johnny Jones"—Jocko. A. M. S.

Peculiar the number of students whose bill of fare is "coffee and" with "shipwreck" once a week. Should this be attributed to the world's series or the hobble skirt?

Dr White started his muck rake on the 3rd of November. We hope it caught no one.

Did you notice that Dr. O'Byrne quizzes all the "late slips?" Moral: Don't be late.

Wonder if there is any chance of switching Sunday School to Saturday for all of us. This might start a great religious movement among the students—sophomores, at least.

Dr. Heintz: What is petrolatum?
Grotouski: Petrolatum is benzoated paraffin.

We understand that Kotalik has taken up cases of minor surgery, but has not been successful thus far. Will one of the esteemed (?) juniors please show him how to trim his corns without getting infected?

"Wood turned to stone; stone turned to wood; they both turned to rubber." So Dr. White said, but we cannot understand the process. Dr. White blamed it on the "hobble" skirt, but we don't believe it "and don't you forget it."

Who said class of 1913 weren't a bunch of "stickers?"

Anyone who wishes to raise a mustache should see Coffler. He has perfected a hair oil that will better the ornament known as a "base-ball mustache." Mr. Coffler has eleven on each side with two in the middle as officials.

Mary had a little lamb:
It couldn't sing a note.
So mary sold this little lamb
But got her sweethert's "goat."

"Common sense," that's all. B. I. L.

Our notion of nothing to look at is the gentle asinine expression that creeps over the countenance of one of our class-

mates as he sleeps through lecture. (A stick of gum for the best guess.)

Seen in the Therapeutics Lab.

HYDROBROMIC ACID
POISON! ! !
TASTE CAUTIOUSLY.

Does that mean to Fletcherize it?

Some low-browed simians about the school still instist that the sophs. were afraid to fight the freshmen.

On the P. & S. football team:

1. Aldrich (soph.), Guard.
2. Edwards " Tackle.
3. Rice " End.
4. Lundholm " Center.
5. Boger " Left-back.
6. Kleger " Full-back.
7. Stein " Half-back.
8. Berger " Quarter-back.

Pretty good representation for a class with "pink tea" proclivities.

According to the report, "Boger *received* water on the knee in the Layola 'U' game." Some reception. (Report written by Stein.)

A student who can lure a quizz master into a discussion and away from the quizz proper is a public benefactor entitled to the good will and blessings of his fellow students.

We saw fit on another occasion to criticize the parliamentary procedure in our class meetings. There is no question in our mind that the criticism was just, and that it was very much apropos, but the wrath which descended upon our head, hurled by those who had been hit, leads one to believe that in the future the gently, veiled insinuation, and the sugar-coated hint would be more politic than frank criticism. Nevertheless, if conditions justify it, and none others will, we shall administer rebuke with as much vigor and determination as we can summon. While it is fair to point out the

failings of our class leader, it would be unjust to ignore his virtues. He has made splendid efforts to make the class organization an effective unit. At the beginning of the year a matter of no small moment was before the class. The majority were strongly in favor of a class rush. He realized the situation clearly. To oppose the rush was to oppose public sentiment. To denounce this "annual newspaper scandal" was to run the risk of incurring the contempt of the majority of the fellows. He showed his colors by fearing to do *neither*. Under his leadership it was possible to declare emphatically against a tradition which was as "firmly rooted as it was pernicious."

The shoemaker's children go barefoot, the tailor's children go ragged, and the students in a big *medical* school are boxed in air-tight chambers in cold weather, one hundred and twenty or more at a time, and forced to breath polluted air for hours. Moreover, the six hundred or more students in the school are provided with two or three towels per day. One drinking cup (on the first floor) must do for all. Dr.——, who wanted to make a bacteriological examination of that lone cup and the bedraggled towel, had to tie them both down. They persisted in crawling away. There are other observations to be made, but they shall be reserved for the future thereby diluting the criticism and lessening its irritative action.

The fellows spit everywhere; on the floor, doors, lockers, walls, steam pipes, but not on the ceiling. That is out of reach (excepting "Shorty's" stream, of course.)

FRESHMAN NOTES.

The entire Freshman class assembled in room 406 at 11 A. M., November 9, for the purpose of having a class photograph taken. The students were all attired in dissecting gowns, and after being seated in the lower seats of the amphitheater, with the officers of the class in the front row, two exposures were taken. This photograph will no doubt

be prized very highly by the members of the class, as the conditions were very favorable for good results.

Some of the members of the class have displayed marked "artistic taste" in the production of their anatomical drawings. Among this number is S. R. Monaco, who has earned the title of "Class Artist," having produced many drawings which are certainly a decided credit to him. Mr. Monaco is of Italian descent, and has been a resident of Rome, Italy, to within a few years ago.

JUNIOR NOTES.

Dr. Earl: "What do you know about icturus in pneumonia?"

Mr. Spalding: "You can have it. That's all I know.

Dr. Earl: "Help us out, Mr. W. K. Oleson?"

W. K. Oleson: "It may be in the sputum or it may lie in the blood."

Dr. Goldstein: "Who invented the science of obstetrics?"

Class (as a whole): "Kennedy."

Dr. Goldstein: "Where was the first Cæsarean section performed."

Class: "In Ireland."

Dr. Earl: "Now, Mr. Port, just use a little horse sense."

And Port wondered why the class gave him the horse laugh.

Dr. Pusey: "Unna is the Theodore Roosevelt of dermatology. He is constantly making suggestions, most of which are useless."

Dr. Earle: "Mr. Alyea, differentiate between pneumonia and infarct of the lungs."

Alyea: "In infarct there is sputum in the blood."

Dr. Corwin: "It's just like my mustache—pointed."

Dr. Pusey: "It's a most damnable disease. [Applause.] "I mean it's a most wretched disease."

Pusey (calling roil): "Mushorn."

Mershon: "Here."

SENIOR NOTES.

On Friday, November 4th, 3:30 p, m., all senior students were excused from the various clinics to attend a Hebostsotomy performed by Professor C. S. Bacon, assisted by Dr. A. H. Rohrlach, at the University Hospital. The operation was successful and of great benefit to all who attended.

On Monday morning, November 7th, the senior students had an opportunity to witness a Caeserian Section performed by Professor C. S. Bacon, assisted by Dr. Rohrlach, at the University Hospital. The operation was successful. The name of Professor C. S. Bacon is sufficient to warrant a good result. Many gynecologist and surgeons from Chicago and neighboring states were present.

Dr. Bruce King (in Psychiatry quiz): "What would be your definition of common sense? Have you any?"

Sochat: "I haven't got any, Doctor."

Dr. Earle (after lecturing about the infant feeding): "Gentleman, is it clear to you."

Manoogian: "Oh yes, Doctor, clear as mud. I have a system of my own, but it never works right."

One of the surprises of the recent election was the defeat of Fred Harrison Brines. The report that was received from West Baden, Ill., is that Mr. Brines, who had gone there ostensibly to vote, had entered as a contestant against Cupid, in which the latter won. The young benedict is expected back in a few days.

ALUMNI NOTES.

Miss Heelan received word from Drs. Bantug Reyes and Foronda, who graduated last year rrom the P. & S. College, that they are connected with the Philippine General Hospital at Manila, P. I., in the service of the Bureau of Education.

Dr. Bernard Fantus, Professor of Materia Medica and Therapeutics, prepared a paper on "Phenolphthalein,"

which was read at the sixth annual meeting of the International Medical Association of Mexico at El Paso, Texas, October 27, 1910. Dr. Fantus found it impossible to attend on account of professional duties.

Dr. Charles E. Husk, of Sta. Barbara, Chih, Mexico, a graduate of the P. & S., is president of the association.

FACULTY NOTES.

Dr. and Mrs. Alexander Hugh Ferguson gave a reception at their home, 4619 Grand boulevard, in honor of the visiting surgeons of North America Tuesday evening, November 8, 1910.

QUINE LIBRARY NOTES.

The following articles, written by members of the Faculty, have been noted in recent periodicals:

Dr. Wm. Allen Pusey—"Treatment of Malignant Growth of the Skin from a Dermatological Standpoint," Journal of American Medical Association, Nov. 5, pp. 1611 to 1615.

Dr. Joseph C. Beck—"Conditions Demanding Enucleation of the Tonsils," Journal of American Medical Association, Oct. 29, pp. 1523-1526.

Dr. G. Frank Lydson—"Dr. Pohly's Cases of Anemic Ulcer of the Throat," New York Medical Journal, Sept. 24.

Dr. B. C. Corbus—"Infections in Specific Urethritis," Illinois Medical Journal, October.

Dr. F. G. Harris—"Wassermann Reaction in Nervous and Cardio-Vascular Diseases," Illinois Medical Journal, October.

Dr. D. N. Eisendrath and Dr. D. C. Strauss—"The Surgical Importance of Accessory Renal Arteries," Journal of American Medical Association, Oct. 15, pp. 1375-1378.

Gifts.

During the past month we have had presented to the library a picture of Dr. Christian Fenger, and also one of Dr. Nicholas Senn, the former the gift of Mrs. Fenger, and the

latter the gift of Dr. Manuel Senn. It would add to the interest of these pictures if we might have an autograph of each of these distinguished men to frame with the picture and if any of our faculty or alumni have an autograph letter or the mere autograph of Dr. Fenger or Dr. Senn that they would be willing to part with we solicit their donation to the Quine Library, where they will be most gratefully received and permanently preserved.

We have received a collection of journals and reprints from Dr. Quine and Dr. Steele.

Dr. H. O. White also donated a collection of journals. The journals extending back for some time were arranged by years and volumes, showing Dr. White's painstaking manner of work.

Dr. Barrett presented the following books to the library:

Grossen—Diagnosis and Treatment of Women.

Montgomery—Practical Gynecology.

Penrose—Text-book of Diseases of Women.

Gilliam—Text-book of Practical Gynecology.

Leedham-Green—The Treatment of Gonorrhœa in the Male.

Hatcher and Wilbert—The Pharmœopeia and the Physician.

Ashton—Practice of Gynecology.

The librarian invites every member of the faculty to make use of the library. There is a special faculty reading room and the librarian is anxious to assist in looking up refferences, or in any possible way helping any patron of the library. When a person has but a short time for reading it is often a good plan to telephone the librarian in advance, that his books may be ready for him when he reaches the library, and thus he wastes no valuable time in waiting for material to be found.

SCHOOL OF PHARMACY.

OF THE UNIVERSITY OF ILLINOIS.

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CARL S. N. HALLBERG.

1856–1910.

Carl Svante Nicanor Hallberg, the subject of this sketch, was born in Sweden, October 13, 1856, in the city of Helsingborg, on the Sound, directly opposite the Danish city of Elsinore, with its ancient fort, in which was laid the scene of the story of Hamlet. His parents were Carl and Anna (Kohrtz). Accompanying his older sister to school one day to defend her against "some bad boys," he liked the experience so well as to begin school when four years of age. Continuing in a private school until nine years old, he was admitted to the "Gymnasium," where he continued his studies until removing with his parents to America in the spring of 1869, settling at Altoona, Pa., on the Fourth of July, where his father was employed in the locomotive works of the Pennsylvania Railroad. Many experiences of his boyhood days in the old country related to the healing art, which, perhaps, accounts for his adaptation for and great interest in pharmacy. On his mother's side the family had long been famous, one member of each generation handing down the art of setting broken limbs to a member of each succeeding generation. In the old mansion a great silver urn occupied the post of honor on festive occasions, a tribute from King Carl XIV, Bernadotte, formerly one of Napoleon's generals, for services performed. The grandfather was a prototype of "the concentrated inhabitant" of Mark Twain, comprising within himself all the important offices in the village, fifteen

miles from the city, including village schoolmaster, watchmaker, gunsmith, and the art of healing, preparing all his own remedies, the chief of which were salves of every possible hue and composition.

It was during his boyhood days in Sweden, while visiting in the village during the summer vacation, that the young man was fully initiated into the healing art, by assisting his grandfather at the operation of bleeding, or blood-letting, it being his duty to stand beside the victim and catch the stream of "claret" in a tinned bowl as it issued from the lancet's wound. The young men and lassies paid regular annual visits to "the master," to be relieved from the effete blood that had accumulated during the winter months, the only medical treatment they indulged in—the only kind they seemed to require. The old gentleman used two ointments mostly on his own wounds, received in Napoleon's war, but in the summer months the ointments were superseded by bandages of fresh, green cabbage leaves, as a cooling application.

Young Hallberg would also assist, during the vacations, in his father's factory, and once, through accident, swallowed some solution of gold cyanide for plating purposes, which threatened to cut short his youthful career when ten years old; but such was his pharmaceutical instinct that he cried for milk as an antidote. Probably these experiences, as well as the fact that his father was a technical chemist, determined him to engage in pharmacy, and he was apprenticed to Dr. S. M. Sellers in Altoona early in February, 1870.

After four years' service, and his family having returned to Sweden, he decided upon attending a college of pharmacy. Such a proposition was something new in that section of the state at this time. The idea was scouted by some; others advised him to learn a trade—that is, to obtain employment in the locomotive works. That there could be any trade, unless connected with railroading, was thought impossible in Altoona! However, persistence conquered, and a traveling salesman was finally discovered who knew there

was a college of pharmacy in Philadelphia, hadactually seen the building, and who furnished the address.

Arriving in Philadelphia early in October, in 1874, a situation was obtained with the wholesale drug house of M. K. Smith & Co., which had just succeeded Smith & Shoemaker at 243 North Third street, Mahlon N. Kline and Washington J. Sellers, an uncle of Mr. Sellers, of Altoona, having become partners in the firm. A short stay in this establishment afforded much valuable experience in cutting up and packing annatto, asafoetida, caustic soda and other articles equally agreeable to handle, the monotony being varied with cleaning U. S. A. Hospital Department greenglass packing bottles—that is, scouring them inside and outside with sand and water, to remove the debris of decayed straw with which they had been covered "since the War." A position was then, fortunately, secured with E. B. Garrigues & Co., Tenth Street and Fairmount Avenue, where, under the direction of Edwin M. Boring, a thorough training and valuable experience was afforded. This pharmacy was a revelation; no patent medicines in the store proper, no soda-water, nor cigars, everything in the most perfect order. Rows of stock-bottles in the cellar labelled in a bold hand—a master hand, which he then recognized but failed to fully appreciate until years subsequently—that of Professor Maisch, who had been employed in the pharmacy in earlier years.

The summer necessitated a change in situation, with J. O. Eberhard, and again at the opening of the College with A. Nebeker, where he remained until leaving Philadelphia for Chicago in the spring of 1877, having remained in the city after graduating in March, 1876, during the great Centennial Exposition. The next great event, the World's Columbian Exposition (1893), was celebrated by his marriage to Therese Bergstrom, formerly a resident of Stockholm, a son being born in 1897.

After two years of practice as clerk with C. F. Hartwig, of Chicago, he engaged in manufacturing pharmacy, associated with C. G. Wheeler, originating the saccharated extracts,

of which the "abstracts" of the U. S. P., 1880, were the outgrowth.

During 1888 and 1889 he was associated with C. L. Feldkamp, in the practice of pharmacy in Chicago, the firm engaging in manufacturing preparations of the National Formulary and other pharmaceuticals, for which it was awarded the gold medal by the American Pharamaceutical Association, at the exposition held in conjunction with the meeting in Detroit, Mich., in 1888.

First contributing to pharmaceutical journals in 1878, he became the editor of the Druggist, afterward the Western Druggist, in 1882, relinquishing editorial duties in 1890 to accept the position a professor of pharmacy in the Chicago College of Pharmacy, and in 1896 when this college was united with the University of Illinois his appointment was confirmed by the Trustees of the University. This position he retained up to the time of his death. He joined the American Pharmaceutical Association in 1879, the Illinois Pharmaceutical Association in 1881, serving as secretary in 1890-91, and he has been elected honoray member of a number of western State pharmaceutical associations.

A member of the Committe on the National Formulary since its formation in 1886, he has contributed to its three editions. A delegate to the meetings of the Pharmacopoeial Conventions held in 1890, 1900 and 1910, he was elected a member of the Committee of Revision by each Convention.

He has contributed a large number of papers to the American Pharmaceutical Association, embracing a great variety of subjects. He was secretary and chairman in 1892 of the Section of Scientific Papers. He was most active on all questions affecting pharmaceutical education and legislation, having instituted the statistical reports to serve as the basis for more thorough and scientific pharmacy laws.

The wide range of his activities may be gleaned from the list of the titles of the papers he wrote. They embraced such subjects as Beef Extracts, A Draft for Registration Requirements, College Courses in Pharmacy, Dispensing by Physicians, Draft of a Bill to Regulate the Sale of Patent Medicines, Fluid Extracts, Galenical Preparations, Wool Fat, Poison Statistics, Powdered Extracts, Simultaneous Fractional Percolation, Solid Preparations for Internal Use, The Requirements for Graduation in American Colleges of Pharmacy, The Professions of Practicing Pharmacists, etc.

He had been editor of the Bulletin of the Association

since its first issuance in 1906, and in almost every phase of Association work he has been an active and tireless worker.

Recently he was elected chairman of the Sub-Committee on Miscellaneous Galenicals of the Revision Committee.

Since 1901 he has been a member of the Council on Pharmacy and Chemistry of the American Medical Association; in fact, we understand that the credit for the origin of the council was his; and his pharmaceutical knowledge has been of much service to that organization.

He passed away on October 22, 1910. The funeral services were held at his late residence, 4069 Kenmore avenue, Chicago. Representatives from all the interests with which he was connected were present. The members of the American Pharmaceutical Association present were: President Eugene L. Eberle, of Dallas, Texas; First Vice-President W. B. Day, of Chicago; Treasurer, M. H. Whelpley, of St. Louis; Secretary of the Council J. W. England, of Philadelphia; ex-President Leo Eliel, of South Bend, Ind.; F. W. Meissner, of the Committee on Bulletin and member of the Board of Trustees of the U. S. Pharmacopœial Convention, and local members, including T. H. Potts, Secretary of the National Association of Retail Druggists. The representatives of the Association appointed by the chairman of the Council were: Wilhelm Bodemann, H. W. Whelpley, F. W. Meissner, E. F. Ladish and C. A. Storer.

The honorary pallbearers were members of the Chicago Veteran Druggists Association and the A. Ph. A. members present; the active pallbearers were Professor Hallberg's colleagues of the Faculty of the School of Pharmacy of the University of Illinois.

The funeral services were impressive. President Eberle made a touching and eloquent address. The funeral pieces were beautiful and numerous; among those who sent flowers were the Dean and Class of 1876 of the Philadelphia College of Pharmacy; the Faculty, the Alumni and the Students of the University of Illinois School of Pharmacy; the officers and Council of the American Pharmaceutical Association; The Colorado Pharmaceutical Association; The Bohemian Druggists of Chicago, The Chicago Veteran Druggists Association; as well as Professors Wulling, Caspari and Diehl, Mr. Meissner, Mr. Eliel and many others.

Interment was made in Graceland Cemetery in the lot where the remains of the late Albert E. Ebert rest (the lot being a part of the Ebert Legacy to the American Pharma-

ceutical Association), in recognition of the services of C. S. N. Hallberg to the American Pharmaceutical Association.—From the Bulletin of the A. Ph. A.

SCHOOL NOTES.

The classes of the School of Pharmacy have organized and elected officers as follows: Senior class—Reuben Lindstrom, President; William A. Smith, Vice-President; Thomas Ross, Secretary; Carl Bode, Treasurer. Junior Class—Ben C. Grosse, President; F. B. Lindeman, Vice-President; William Sullivan, Secretary; L. F. Stoebig, Treasurer.

School was closed on the day of Professor Hallberg's funeral and the students attended the funeral. Both classes sent handsome floral pieces.

Professor Hallberr's illness had prevented his giving any class instruction this year, and his work has been taken from the beginning of the year by his assistant, Professor C. M. Snow. Professor Snow has been assistant to Professor Hallberg for eight years and was able to take all classes in pharmacy and carry the work along smoothly and in a manner that was entirely satisfactory to both students and Faculty.

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THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS,

CHICAGO.

VOL. XVI BATAVIA, DECEMBER 20, 1910 NO. 12

EARLY HISTORY OF THE COOK COUNTY HOSPITAL TO 1870.*

By William E. Quine,

Dean and Professor of Medicine and Clinical Medicine, College of Physicians and Surgeons, Medical Department, University of Illinois.

Cook County came into existence as a subdivision of the state in January, 1831, and it began to take care of its sick poor twenty years later. This was done in the Mercy Hospital from January 1, 1851, until August 8, 1863, at a cost to the county of $3 per week for each patient.

In August, 1863, the county transported its people from the Mercy Hospital to Jefferson, and cared for them, together with later arrivals, in a building of its own and under its own administration, until January 15, 1866. Dr. D. B. Fonda was in charge.

That was the first "Cook County Hospital."

The institution formerly located on Arnold street (now Wentworth avenue) near 18th street, and referred to in local annals as the "Old County Hospital," was established by the city, and for several years was known as the "City Hospital."

The first City Hospital was a temporary frame structure a

*Read before the annual joint meetiug of the Historical Society and the Alumni Association of Cook County Hospital, Nov. 17, 1910. See editorial

story and a half high, built in 1854-5, under the supervision of Health Officer Brock McVickar, for the isolation and care of cholera patients. It was demolished in 1856, and a substantial brick building with a stone basement was erected on the same lot at a cost of $75,000. This is the building referred to throughout the following pages. The corner stone was laid in June, 1856, and the building was completed in November, 1857; but owing to a conflict between the homœopathic and the regular divisions of the medical profession, which spread through the community, the building was not occupied until 1859.

In order to comprehend the power of Homœopathy at that time, it is necessary to remember that then forty per cent. of all the homœopathic physicians in the world were located in Cook County, Illinois! And some of them were men of might. There was now a deadlock and it had to be broken. It was broken.

In August, 1859, a number of physicians and surgeons leased the hospital for five years in connection with a contract binding them to take care of the city patients for an uniform fee of $3 per week. Under this contract the institution was opened August 13, 1859, by the lessees:

Surgeons—Daniel Brainerd, George Schloetzer, George K. Amerman.

Physicians—De Laskie Miller, J. P. Ross, S. C. Blake.

There was also a board of governors of nine members, representing the city, who exercised general supervision over the care of the patients.

Clinical instruction was given in the hospital to the students of the Rush Medical College during the winter of 1859 and 1860.

Remember, in this connection, that the Chicago Medical College also gave its first course of instruction in the winter of 1859-60, and that its founders, N. S. Davis, H. A. Johnson, Edmund Andrews, W. H. Byford and J. H. Hollister, had recently withdrawn from the faculty of the Rush Medical College and had taken the Mercy Hospital with them,

which was the only hospital connection the Rush Medical College then had.

The capture of the City Hospital was the counter-move of Rush College.

In the year 1862 the attending staff consisted of George K. Amerman, Joseph P. Ross, Joseph W. Freer and Robert L. Rea.

At this time the Civil War was in progress and the United States Government confiscated the property for the uses of the army, and thus put an end to the lease. It was opened as an army hospital October 29, 1862; its designation was changed to "Desmarres General Hospital," August 23, 1864, and it was closed by the Government November 12, 1865.

When it was confiscated it was put under the jurisdiction of Surgeon Brock McVickar, sometime Health Officer of Chicago, and associated with him were Acting Assistant Surgeons J. P. Ross and George K. Amerman.

McVickar was succeeded by Surgeon Hall, and he by Surgeon S. A. Jackson.

On August 23, 1864, Surgeon Joseph S. Hildredth was put in charge, and Acting Assistant Surgeons M. K. Gleason and J. H. Goss were associated with him.

Although the hospital appears in the Government records as the "Desmarres General Hospital" during the period of Hildreth's administration it was known in Chicago as the "Desmarres Eye and Ear Hospital;" and it was occupied exclusively by eye and ear army patients.

Hildreth was not an army man, but he was the son-in-law of an United States Senator. He had recently returned from Paris, France, where he had been studying diseases of the eye and ear under Desmarres and had settled in Detroit; and by virtue of powerful family connections he was put in charge of this army hospital.

Even before the hospital had been vacated by the Government, Amerman and Ross were busily engaged in a movement to reestablish it as a charitable institution; and to this

end Amerman had had himself elected a member of the Cook County Board of Supervisors.

One of the humors of the campaign which led to his election is chronicled by the newspapers of that period as follows: A figure of Mercury, of heroic size, surmounted the dome of the old courthouse, and as usual with such figures it held aloft in its right hand the caduceus or winged staff which indicates that the bearer is the official messenger of the gods. Amerman had hired somebody to fasten a big banner to that staff and the banner bore a message to the people of Cook Connty, which had the appearance of a command, sizzling fierce and straight from the skies, to "Vote for Amerman!" And the people did!

After election he seems to have had no difficulty in prevailing upon the board to lease the premises from the city and to maintain them as a county benevolence.

The proceedings were as follows: The city owned the Hospital property and the county owned the Reform School property, a tract of 160 acres located south of the city limits and extending from 40th to 43rd street in one direction and from Ellis avenue to Lake Michigan in the other. The agreement was that the county should have the use of the Hospital property in exchange for the use by the city of the Reform School property; but there was no exchange of titles.

The trade was consummated, and it was considered quite fair at the time, but a wonderful change in values has occurred since. Now the Reform School property, half a mile square, is covered by residential and commercial palaces and the Hospital block is covered by a soap factory.

The triumph of the brilliant and persistent Amerman did not last long, for he was stricken with tuberculosis and compelled to retire.

But Ross was there! Without delay he secured his own election as a member of the Board of Supervisors, and soon after as chairman of the Hospital Committee of the board; and held that position two years—from 1866 to 1868—which was long enough for his purposes.

One of the conditions upon which the board consented to assume the administration of the hospital was that the cost of maintenance should not exceed $10,000 for the year, a condition that was accepted with delightful alacrity by Amerman and Ross; but, nevertheless, the cost of maintenance for the second year was $20,000, and for the third year $23,000, and for the fourth year $30,000, and doubtless it has kept on increasing ever since *pari passu* with the increase in the number of inmates and employes and the increase in the cost of living.

Following the evacuation of the hospital by the government, Amerman and Ross, acting on the authority of the Board of Supervisors, proceeded to put the place in order for occupancy by the county's wards, and at the same time they were busily engaged in organizing medical and administrative boards of control.

Accordingly on January 1, 1866, Mr. B. F. Chase, who had been warden of the hospital at Jefferson, was transferred to the new institution, and Mrs. Chase was duly installed as matron; and on the 12th of the same month Nils T. Quales, of Rush, having triumphed in a competitive examination for the position, began his career as the first interne.

At this time there was only one patient in the hospital, a German girl, with a palmar abscess; but a few days later the county's charges were transported from Jefferson to their new home, and the history of the Cook County Hospital was begun.

George K. Amerman and Joseph P. Ross were its parents, and the date of its birth was January 1, 1866.

DESCRIPTION.

The "Old County Hospital" was nominally located on the southwest corner of 18th and Arnold streets, but actually the hospital lot extended from 18th street to 19th street, and the building was placed a little to the north of the middle line, leaving a lawn of modest proportions at either end.

The building faced east, had a frontage of 133 feet and a depth varying from 55 to 60 feet, and was three stories and

basement high. The basement was constructed of rock-faced Lemont limestone, the superstructure of red brick with limestone trimmings, and the roof was tinned and painted red.

Considering the time, the "Old County Hospital" was a distinctly imposing structure.

It was heated with steam, well lighted and ventilated, abundantly furnished, well supplied with modern conveniences, and delightfully wholesome from every point of view. Some years later it became infested with rats and roaches through lack of competent management, and the process of deterioration thus begun was allowed to continue. It was always liberally supported by the county.

In 1869 and 1870 the sewerage system was thoroughly renovated following the discovery of a break in the main conduit and the escape of tons of human excrement under the basement floor.

The heating plant was in the rear of the lot and the morgue stood between that building and the 18th street line.

The capacity of the hospital was 130 bed, but during the period of occupancy by the Government it contained 160 beds, for then the clinical amphitheatre was used as a ward.

The building soon came to be overcrowded and in consequence of increasing pressure a three story frame wing was connected with the south end of it in 1870 at a cost of $7,250. This wing contained three new wards and increased the capacity to 220 beds.

From January 1, 1866, to January 1, 1871, the admissions averaged 1,400 or 1,500 annually and the deaths about 120.

ORGANIZATION.

The first Medical Board was organized as follows:
Physicians—J. P. Ross, H. M. Lyman, Thomas Bevan.
Consultants—H. A. Johnson, R. C. Hamill.
Surgeons—G. K. Amerman, R. G. Bogue, C. G. Smith.
Consultant—J. W. Freers, Wm. Wagner.
Gynecologist and Obstetrician Consultant—H. W. Jones, W. H. Byford.

Oculist and Aurist—J. S. Hildreth.

Pathologist—H. M. Lyman.

The basis of organization was equality of representation on the part of the two regular medical colleges then in Chicago, the Rush Medical College and the Chicago Medical College, and a sufficient number of non-college men to constitute a majority of the entire number. Thus it will be noticed in the presentment just made that there are three Rush men, three Chicago men and seven representing the profession at large. But, unhappily this agreement was short lived. The shrewd and forceful Amerman, a non-college man, died in 1867, and Edwin Powell applied for the vacancy; but Powell was ineligible, because he was a professor in the Rush Medical College. He thereupon resigned from the college, was elected attending surgeon to the Cook County Hospital, vice Amerman, deceased, and a few days later was reelected to his old chair in the college.

This act led at once to discord. It was a declaration of war between the colleges. The discord continued with increasing bitterness until it eventuated some years later in the dismissal of the entire board and the appointment of a new board by the County Commissioners, who had superseded the old Board of Supervisors in the year 1871.

Changes in the organization were frequent in the first few years owing to deaths, resignations and changes in the division of labor; so that in 1869 the following array of attendants and consultants was presented:

Physicians—J. P. Ross, H. M. Lyman, Thomas Bevan, H. A. Johnson. Consultants—R. C. Hamill, W. G. Dyas.

Surgeons—R. C. Bogue, Edwin Powell, J. W. Freer. Consultant—J. R. Gore.

Venereal and Cutaneous—C. G. Smith.

Gynecology and Obstetrics—T. D. Fitch. Consultant—W. H. Byford.

Eye and Ear Diseases—F. C. Hotz.

During the summer of 1870, Dr. Wm. E. Quine, then recently graduated from the hospital as an interne, was elec-

ted attending Gynecologist and Obstetrician to divide the service with T. D. Fitch.

The medical board at this time was a self-governing and a self-perpetuating body and it was considered by professional people a high honor to be connected with it. The basis of organization was acceptable to everybody and fair to every interest, but the act of Dr. Powell led to its destruction. To that act may be traced responsibility for the transformation of a noble institution nobly administered into the toy of politicians and the scandal of the medical profession.

The consulting staff was never consulted except that in rare instances the consulting gynecologist was called in. The principal function of the consultants was to vote right at meetings of the medical board.

THE INTERNES.

Quales was the first and for three months he was alone, except that he had the assistance of a pharmacist, William Baker, who served the hospital in that capacity a year. Quales' service began January, 1866, and ended February, 1867.

James M. Hutchinson began service three months later and Edward S. Twining three months later still; and when Quales graduated Curtis T. Fenn became a member of the staff.

During this formative period there were some irregularities in respect to the length of service, but it may be said in general terms that the first four internes served about a year.

D. S. Root, who began April, 1867, and graduated October, 1868, was the first to serve eighteen months.

When organization was perfected and a regular order of succession established the house staff consisted of three members, known as the junior assistant, the senior assistant and the house physician and surgeon; and each member held each of these ranks, and performed the duties appertaining

to each, for a period of six months. At this time the pharmacist was dismissed.

The junior assistant accompanied the head of the staff on his rounds, wrote histories and prescriptions on dictation, compounded the prescriptions, made out requisitions for supplies, and conducted such primitive laboratory examinations as were then in vogue.

The senior assistant was the surgical dresser and the first assistant at surgical operations. He also conducted post-mortem examinations, assisted the eye and ear surgeon, and kept the records of his work.

The house physician and surgeon was in supreme command in the wards, and when it became necessary in any case, medical or surgical, to assume responsibility for acts not included in the orders of the attendants; this was always done by the head of the staff. He was in no way under the authority of the warden.

He assumed charge of emergency surgical cases and of all obstetrical cases, made the round of visits in the morning and evening, superintended the writing of histories and prescriptions, ordered the discipline of the wards, even to the extent of expelling disorderly patients, and supervised the preparation of monthly reports for the medical board.

The relations between the internes and the warden were of the most friendly character and nothing approximating a clash of authority ever came to my knowledge.

In April, 1868, the house staff consisted of Root, Senn and Miller. Root graduated in October, 1868, and Quine then began his career. Senn graduated in April, 1869, and Dyas entered the staff. Miller graduated October, 1869, leaving Quine at the head, Dyas, senior assistant and J. W. Tope, the new arrival, junior assistant.

Soon after this arrangement began, Dyas received a dreadful infection in the dead house which not only put an end to his hospital career, but almost ended his life. In this emergency Dr. William Fox was appointed, without examination, to fill the unexpired term.

Quine graduated April, 1870, and was followed by Tope.

The three internes occupied the same room, which was centrally located on the second floor, and commodious and comfortable in every way.

It contained three beds arranged end to end along the side wall, and there never was a moment's doubt as to which bed belonged to the head of the family and which belonged to the tail.

Internes were allowed very few privileges by the attending surgeons, and every act of theirs outside of orders was sure to be sharply scrutinized. The surgeons were jealous of their prerogatives no less than of their reputations.

But there were no telephones in those days, and the hospital had no messenger service; hence emergency surgical and obstetrical work frequently fell upon the internes; but in every instance the facts had to be explained as promptly as possible to the attendant in charge. Indeed, the internes, with rare exceptions, aimed to keep faith with their superiors in these matters, and consequently they were rarely subjects of criticism.

To a limited extent the members of the staff availed themselves of the privilege of engaging in outside practice, and two or three of them are known to have accumulated several hundred dollars in this way.

Similarly, for a year or two the head of the staff was allowed to show obetetrical cases to undergraduates, for pay, but this practice was never heartily approved, either by the attendants or by the internes themselves and it soon ceased.

EQUIPMENT.

The hospital had no equipment in those days except an abundant store of medicine and of test tubes and an adequate supply of adhesive plaster and of material for bandages, splints and sutures.

There was no microscope and no clinical laboratory apart from the drug room. Laboratory diagnosis was unknown except such proceedings as were connected with chemical examination of urine.

Bacteriology and hematology were undeveloped and radiography was hidden in the future by a wall twenty-five years thick. Asepsis was unknown. Internes in touch with erysipelas and gangrene, or engaged in post-mortem work, were assumed to have no connection with obstetrical cases, but there was no stern rule against it, and they thought no ill of maintaining friendly relations with laudable pus.

Puerperal infections were frightfully frequent and deadly and the obstetric ward was closed on two or three occasions for several weeks at a time on account of them. During these intervals the windows were kept wide open night and day; atomizers were kept busy sputtering weak antiseptic vapors into the atmosphere; walls nd ceilings were freshly white-washed; and all woodwork was scrubbed with antiseptic solutions, but the old deadly ignorance of personal transmissions of infection continued.

DOMESTIC SERVICE.

The first warden, Mr. Benjamin F. Chase, served three years—1866-7-8.

He was followed by Heber S. Rexford, of Blue Island, who occupied the position two years -1869-70—and then became county treasurer.

Mr. George W. Reynolds, of Evanston, succeeded Mr. Rexford. Under his administration the hospital had a pharmacist again, Mr. DeWorthen, who was appointed without need or desire on the part of either the medical board or the house staff.

The domestic service of the Hospital was exemplary in every particular. The standards of character and of duty were high and the discipline was excellent in every department. Political favorites occasionally received positions under pressure, but their tenure was always short-lived.

The general atmosphere was such as surrounds a happy family. If there was any "graft" in connection with the administration during this period it was unsuspected by the house staff.

PERSONAL—a. THE MEN OF THE MEDICAL BOARD.

Ross and Amerman were great men in many ways. They had the vision of prophets and the constructive power of statesmen. They had ideals and they never relinquished them. Baffled and pushed aside by the exigencies of the civil war they waited and watched, and when the moment for action arrived we find them directing the affairs of the board of supervisors and masters of the situation.

Ross was one of the sturdiest figures in the faculty of Rush Medical College, a splendid clinician and teacher, an exemplary citizen, a powerful friend and an unsparing foe.

Amerman was a brilliant surgeon and the best lecturer on surgery the hospital had for many years. He was at that time surgeon of the I. C. R. R., the immediate predecessor in that position of our honored friend, John E. Owens. When Amerman died, Ross was orphaned, for Amerman was a great coadjutor.

Bogue had been in the army as surgeon of the 19th Illinois Infantry. He was a man of sound character and lofty ideals and his splendid fidelity to duty was unsurpassed by any member of the board. He was tediously slow as an operator, and quite as slow as a teacher; but he was a man of learning and of judgment, and his attentions to the poor people under his care were unwearying. He was profoundly respected by all who knew him. He was a poor speaker, but was regarded by some a good teacher.

Powell was a great surgeon. Considering the day, he was a great pathologist, a great diagnostician, and one of the most skilled operators in the world. He withdrew from the practice of his profession just before the overthrow of the medical board, and sought the seclusion of a farm in Missouri.

Charles Gilman Smith was a man of splendid scholarship and of social and professional eminence, but he never manifested a working interest in the affairs of the hospital.

Lyman, Bevan and Johnson were accomplished scholars, both in the academic and the professional sense, and they

were among the best teachers of their day. Lyman never was considered a great practitioner, but he came to be regarded in his later years as the most learned physician in Chicago.

Johnson was held to be one of the best medical microscopists in Chicago for many years, and Bevan as one of the best neurologists.

Freer was one of the most unassuming and one of the most substantial men I ever knew. He was a great practitioner and a good teacher, and was greatly beloved and honored in his time.

William Wagner was the most prominent German surgeon in Chicago in the early days. He founded the German-American Medical Society of this city in the year 1857 and was its first president. He died before he had time to show his merit as a hospital worker.

H. Webster Jones, nephew of Daniel Webster, was a most gracious, lovable, learned and talented man, an excellent teacher and an inspiring counsellor, who was greatly beloved and admired by everybody and by the pauper patients, as well as by patients of princely wealth and station. I doubt if there ever has been an obstetrician in Chicago who has had anything like the clientele or the standing in professional and popular esteem that was possessed by H. Webster Jones.

Hildreth was undoubtedly one of the greatest of our local specialists in diseases of the eye and ear of his time; but he was a man of singularly obtrusive and ostentatious personality and less popular with his colleagues and contemporaries than his professional merit deserved. He died in 1869 of an overdose of Gelsemin taken for the relief of neuralgia.

Byford was the greatest gynecologist west of the Allegheny mountains in those days. He was an author of world-wide renown. For many years he occupied the chair of gynecology in the Chicago Medical College and for many years more he occupied a like chair in the Rush Medical Col-

lege. He was also the founder of ihe Women's Medical College of Chicago.

Fitch had been an army surgeon. He was a successful practitioner, but hardly qualified for positions of leadership. He prospered in private practice, but lived improvidently, and finally died lonesomely in the Soldier's Home at Quincy.

Dyas was the best example of "a physician of the old school" I have ever known. He had achieved renown as a practitioner in Ireland before coming to this country, and held a prominent position in our local profession almost from the day of his arrival. He was profoundly versed in the classics, and for that reason the internes were disposed to give him a wide berth. They didn't enjoy his discourses on Greek classics. Dr. Dyas was a man of stately presence and unbending dignity. He was crushed to death by a train of cars, and I had the misery of being on the train that did it.

Hamill was a respected practitioner and citizen, and the same may be said of Gore; but neither of these gentlemen ever held more than the most perfunctory relations to the activities of the hospital, or to the general interests of their profession.

H. Webster Jones is the only member of the original medical board now living.

PERSONAL—b. THE MEN OF THE HOUSE STAFF.

Quales was the first and those who have followed have not been ashamed. For forty-three years he has practiced his profession in this city without spot or stain upon a tremendously laboriously career. To the casual observer he still seems rugged and active, although he has discovered in himself painful proofs of advanced decay, for he has admitted to me within a month, and with every appearance of real shock on discovering the fact. that, now, when he runs a couple of blocks very hard, he gets out of breath!

Hutchinson had been a journeyman machinist. He was one of the most brilliant men who ever figured in the affairs of the hospital, but his subsequent career was disappointing.

Twining was the son of a Presbyterian clergyman. He

was a man of extremely quiet demeanor and of moderate talent. Upon graduating he returned to his home state, Iowa, and effaced himself. A quarter of a century ago he was unknown to the officers of the Iowa State Medical Society and I have no doubt he is long since dead.

Fenn is still living. He had been an assistant surgeon in the army during the civil war before his graduation, and of course, before he began his hospital labors. He withdrew from the practice of his profession soon after leaving the hospital in favor of other interests which compelled his service, but he still cherished loving memories of his hospital experiences.

Root was unusual. He had been through the war as a soldier. Entering the service as a corporal in a Michigan regiment of infantry, he emerged lieutenant colonel in command of the regiment. He was greatly respected and beloved by those who knew him, but died before he had time to prove the full measure of his worth.

"There were giants in those days," and Nicholas Senn was one of the tallest of them all. No man has reflected greater glory upon the Alumni Association of the Cook County Hospital, or upon the medical profession of America, than he. His career was the marvel of his generation. Upon leaving the hospital, pitifully poor, he settled in the village of Elmore, Wisconsin, and at once began to storm the citadel of fame; nor did he cease until he had captured immortality.

Miller was not intended by nature to be a physician. Although he had a capable mind, he was not a student, and had not assimilated the ideals of his profession. Upon graduating he was elected county physician, and served in that capacity several years; and later he occupied the position of health commissioner for a short period. He never applied himself seriously to the practice of his profession, and never gave free and fair play to the talents which had been entrusted to his care.

Quine now salutes you and bids you Godspeed.

Dyas, who had been Quine's classmate at college and

his associate in the house staff of the Mercy Hospital before either of them had won position in the "County," got to be a busy and successful practitioner, although he never identified himself with the organizations or the general interests of his profession.

Tope achieved a notable career as a practitioner in Oak Park, Ill., and for many years he was easily the most capable and prosperous, the most highly respected, the most forceful and the most public spirited representative of the medical profession in that community.

Fox was the only interne of the Cook County Hospital who got into the staff without an examination, but he proved a credit to our breed for all that.

A doctor is a man trained for a certain kind of service. The man comes first and is in the front every minute of the time. William Fox was something of a man. He was light-hearted and overflowing with laughter and jest; genial, generous, loving and loyal; a splendid practitioner; sturdy and clean in every relation of life; the companion of statesmen and of rollicking children, of the captains industry and of the Lord's poor; and he distributed the blessings of his personality and of his professional skill with impartial favor among the great and among the humble; or if, perchance, favor were shown, it was sure to be shown to those who needed it most, the weak and the lowly.

Oliver Wendell Holmes must have known such a man as Fox when he wrote the lines:

"You hear that boy laughing?
You think he's all fun;
But the angel's laugh, too,
At the good he has done;
And the children laugh loud
As they troop to his call,
And the poor man who knows him
Laughs loudest of all!"

Fox, old man: "Weeping may endure for a night, but joy cometh in the morning."

Of the first eleven internes, three are living and eight

are dead. The living make obeisance to the memory of the dead and with undisturbed serenity of spirit await the next summons from above.

November 17, 1910.

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TUBBERCULOSIS OF BONES AND JOINTS*†

By Edward M. Brown, M. D., Chicago,
Adjunct Professor of Clinical Surgery, Medical Department of the University of Illinois.

[Continued from November.]

Sometimes marked mental and urinary symptoms occur following the use of the emulsion, but I have never seen any serious results.

Calot (Traitement par des injections) uses olive oil, 50 parts; ether, 50 parts; creosote, 2 parts; iodoform, 5 parts, for the early stages of synovial tuberculosis, with good results. Abry (Etude sur l'elimination d' iodide par les urines) reports an interesting study of the elimination of iodine by

*Read at the meeting of the Mississippi Valley Medical Association, held in Detroit, September 14, 1910.

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the urine after the use of Calot's mixture, and concludes: 1. That iodoform injected into tuberculous cavities is absorbed by the organism and eliminated by the kidneys and salivary glands. 2. The iodated products derived from the iodoform are eliminated under two forms: (a) Mineral compounds, and (b) organic compounds. Mineral compounds only are found in the saliva, and it is probable that more are eliminated in the fæces. 3. At the time of intoxication organic iodine only is found in the urine. 4. The time of elimination is extremely variable. If the time of elimination is long, and not very intense, the prognosis of the result is favorable; if the elemination is short and profuse in quantity, the result of the treatment is expected to be less favorable.

Calot uses his iodoformized oil mixture in doses of from two to twelve grammes, according to age, and repeats at intervals of from five to six days.

Sir William Macewen (British Medical Journal, ii, p. 949, 1909) uses the iodoform emulsion injected into the tuberculous joint in bones and joint cavities after aspiration, and applies iodoform and boric acid, one to four, in bone cavities, after the removal of the local lesion. He urges the crystallized iodoform, as being less readily absorbed and less poisonous.

Primrose, of Toronto (American Practice of Surgery, iii, p. 590), after a fair trial of iodoform emulsion, has discontinued its use, as being of doubtful value.

Lannelongue (Paris: Bulletin de l'Academic de medecine, lxxi. p. 571), as an adjunct to his method of treatment, uses intraarticular and extraarticular injection of iodoform, 10 parts; olive oil, 90 parts; ether, 40 parts; creosote, 2 parts; and urges that it be used early and continuously until the disease is overcome.

Waldenstrom, of Stockholm (Zeitschrift fur orthopadische Chirurgie, xxii, p. 581, 1908), pours ten per cent. iodoform in glycerin into bony cavities after operation.

Onorato, of Geneva (Zentralblatt fur Chirurgie, p. 1906, 1909), Tsza, of Rome (Ibidem), Tietze, of Breslau (Medizin

ische Klinik, iv, p. 391, 1908), advocate the use of glycerin iodoform treatment in the early stages of the disease.

Rovsing (Annals of Surgery, Philadelphia, l, 1052) advocates for arthritis tuberculoso sicca the injection of sterile petrolatum in joint cavities and reports good results. The capsule should not be distended to the point of tension, which causes great pain and some rise of temperature, relieved only on withdrawal of a portion of the vaselin.

The Mosetig-Moorhof iodoform plug has been much used by these authors in bone cavities following removal of the tuberculous foci. It is stated that this plug, which is composed of iodoform, 60 parts; spermaceti, 40 parts; and sesame oil, 4 parts; heated to 100° C. and allowed to cool, is less dangerous from a toxic standpoint and more efficient in stimulating healthy granulations than other similar preparations. When heated to 50° C. it can be poured in the cavity and the wound closed. It has been known to remain for several months, during which time the bone gradually closed in as the plug became observed. (Meurers: Beitrage zur klinischen Chirurgie, lvi, p. 215). It is imperative that the cavity be made as sterile and dry as possible before the mixture is poured in. Moorhof used the electric hot air blasts for this purpose. Others (Moore, Journal of the American Medical Association, xliv, p. 1582) use carbolic acid and alcohol.

Nove-Josseraud (Transactions of the International Congress on Tuberculosis, 1908, ii, p. 40), Waldenstrom (loc. cit.), Lexer (Archiv fur klinische Chirurgie, lxxxvi, p. 930), MacEwan (loc. cit.) and many other surgeons in this country and abroad report favorably on its use.

For a time there was a tendency to substitute Beck's bismuth paste for the iodoform plug, but the bismuth paste is not so free from harm in closed cavities, although it has proved most efficient in the treatment of tuberculosis sinuses. In suitable cases Beck (Illinois Medical Journal, April and July, 1908; Transactions of the International Congress on Tuberculosis, 1908; Journal of the Americal Association,

January 2, 1909) advocates the use of the bismuth paste in tuberculous bone disease and other sinuses. It has been used extensively within the last few years with gratifying results in most instances. A few cases of bismuth poisoning have been reported by Beck himself and others (David Kaufman, Illinois Medical Journal, October, 1909). The preparation consists of bismuth, 30 to 33 yer cent. petrolatum or a combination of petrolatum, white wax, and paraffin in varying quantities, according to the consistency required for the tissues injected.

Ridlon and Blanchard (American Journal of Orthopædic Surgery, August 1909), in one hundred cases of sinuses, tuberculous mostly, report favorable results in same with white wax and petrolatum, 1 to 8 without bismuth. In badly infected cases they add 0.5 per cent. of iodine.

J. B. Murphy's (cited by Moore; Journal of the American Association, 1903) glycerogelatin formalin bone plug is an excellent preparation, possessing many advantages over the other pastes or bone plugs mentioned. It is made by boiling 100 c.c. of white gelatin in 150 c.c. of glycerin and 500 c.c. of water. One or two per cent. of commercial formalin is then added. It can be poured into the bone cavity in liquid form and quickly solidifies; or it may be inserted as a semisolid mass. Its advantages are, as pointed out by Dr. Murphy: 1, It is powerfully antiseptic; 2, it is absorbable; 3, it is nonnecrotizing; 4, it stimulates tissue granulation.

Murphy (Practical Medicine Series, 1909, ii, 139), in infections of the joint, uses two per cent. formalin in glycerin, injected after aspiration of the joint.

CARBOLIC ACID ALCOHOL.

Phelps a few years ago revived the carbolic acid ninety-five per cent. treatment, followed by alcohol douching, with apparently good results in bone and joint tuberculosis. It was quite extensively used for a time and is still being used with good results by many. M. Strauss (Zentralblatt fur Chirurgie (1909), and Tubbey, of London (British Medical Journal, 1909, ii, p. 1909), advocate its use in certain stages

of the disease and report good results. The latter favors Calot's camphor naphthol creosote mixture.

X RAY.

In the superficial bones, such as those of the toes, fingers and wrist, also the ribs and sternum, the Rontgen rays have proved helpful. L. Freund (Munchener medizinische Wochenschrift, lxi, p. 2108, 1909) gives a report of ten cases of tuberculosis of the smaller, superficially located bones, in which six were cured, two improved, and two failures. He thinks it an aid in the treatment of such cases when the synovial is not affected, and there is no pus or bone sequestra present.

Iselin, of Basel (Deutsche Zeitschrift fur Chirurgie, ciii, p. 483, 1909), treated forty-one cases, in which the smaller bones and bones of the foot, wrist, knee and elbow were affected. Twenty-four of the forty-one patients were cured, six improved, ten still improving under treatment, and one case was a failure. There were four recurrence after an apparent cure. Iselin has shown by experiments on young animals that the x ray interferes with the growth of the bone and warns against its use on the epiphysis of the long bones especially in children.

Weterer (Handbuch der Rontgen Therapie, p. 700, 1908) reports similar results.

The Finsen light and heliotherapy also have their advocates and have apparently helped in some cases.

Few, in this country, have had as brilliant success with the use of the x ray as the authors quoted, but it is generally conceded that in properly selected cases of early tuberculosis in adults it is at least an aid in the treatment.

PASSIVE HYPERÆMIA.

Active hyperæmia or hot air treatment of disease joints has been long recognized as useful, but it was not until Professor Bier, then of Bonn, now of Berlin, introduced the method known as the "Bier Treatment." (Hyperamie als Heilmittel, second edition, Leipzig, 1905) that passive hyper-

æmia was recognized as a therapeutic agent in cases of this nature.

The technique of this method consists in placing an elastic woven rubber bandage several times around the limb above the affected joint and allowing it to remain from one to several hours daily. The bandage should cover a considerable area above the joint and should not be tighter than is necessary to produce a vigorous stasis. The stasis should not be marked enough to produce coldness of the limb or pain. Sometimes pain is produced in a diseased limb because of faulty application of the bandage. Sometimes pain is present or increased when the bandage is applied properly. In such cases as the latter the treatment should be discontinued. The joints should not be kept at rest during treatment unless there is pain. This pain often soon disappears after the treatment is continued for a time, and the patients can walk moderately with comfort. Thus the maximal functional result is claimed for this treatment.

The improvement under this treatment is accounted for in several ways: 1. There may be an increase of the opsonic index, locally. 2. There may be an increased number of leucocytes in the hyperæmic limb, a local leucocytosis. 3. It may be due to the increased alkalinity of the blood, also local, and a consequent increased bactericidal power.

K. Vogel (Deutshe Zeitschrift fur Chirurgie, xcvii, Nos. 1 and 2, pp. 1-175), for some time assistant to Professor Bier, reviews his experience with three hundred and forty-nine cases of tuberculosis of the shoulder, elbow, wrist, hip, knee and ankle, and reports constriction hyperæmia as the easiest method and most effective in its results. Though he followed Bier's method closely, he admits his results were not as good as when he was Bier's assistant. He considers good judgment on the part of the surgeon in each individual case necessary for good results. He used the simple rubber band one hour morning and evening. He points out that we should not be discouraged into abandoning the treatment too

early because of slight exacerbations of the disease at the beginning of the treatment.

Abscess or sinus formation is not a contraindication for this method. For such cases Bier uses vacuum cups applied to the sinus openings and incised abscess.

Paul Thiery (Bulletins et memoires de la Societe de chirurgie de Paris, N. S. 35, pp. 597-600), Broca (Ibidem), and Chaput (Ibidem) report indifferent results with the Bier treatment, while Delbet (Ibidem), Moty (Ibidem), and Arron (Ibidem) report gratifying results in certain cases.

American surgeons generally have found the Bier treatment properly applied of definite value. Our results have been satisfactory in the early stages of the disease. The Bier treatment undoubtedly retards the disease and hastens the process of repair.

MECHANICAL TREATMENT.

There is a time in every case of tuberculosis of the bones and joints when physiological rest to the affected limb is absolutely necessary if we hope to overcome the disease. Mechanical treatment aims at securing this rest, thereby lessening trauma and placing the ioint in the most favorable position to hasten repair. This is accomplished in one or more of three different ways: 1. By fixation. 2. By relief from weight bearing, as in the hip, knee, ankle and spine. 3. By traction, to prevent the pressure trauma of reflex muscular spasm.

The textbooks and literature abound in descriptions of novel and complicated efficient and inefficient apparatus, intended to bring about these results. Suffice it to say that the simplest methods should be sought, and they usually will be found efficient when intelligently applied.

[To be continued.]

THE PLEXUS.

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

CHICAGO.

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COOK COUNTY HOSPITAL—THE HISTORY OF MEDICINE IN CHICAGO.

The history of Cook County Hospital is now being written by Drs. William E. Quine, Frank Billings and John B. Murphy. The first chapter appears in this number of THE PLEXUS, entitled "History of Cook County Hospital to 1870," by Dean Quine. The second chapter, also by Dr. Quine, is expected before the close of the current college session, and will cover the history from 1870 to 1876, when the "Old Hospital" was abandoned and the present, or "New Hospital," was opened.

Dean Billings' story begins where Dean Quine's ends—with the year 1876—and will include everything to the pres-

ent date. Prof. Murphy is writing on "The Surgeons of the Cook County Hospital."

The story when complete promises to be one of much interest and inspiration not only to the practitioners of today, but to the students; for the history of the Cook County Hospital is inseparable from the history of medicine and surgery in Chicago. The graduates of the County Hospital are, in a large degree, the leaders of the medical profession in the Mississippi Valley. Look at the roll:

Dean Quine, Steele, Davison, Bacon, Davis, West, Gehrmann, Eisendrath, E. H. Ochsner, Tice, Heineck, Humiston, Fantus, Harris.

Dean Billings, Herrick, Sippy, Ingals, Belfield, Hektoen, Le Count, M. L. Harris, Weaver, Bassæ, Tieken.

Dean Edwards, Murphy, Johnson, Morgan, Van Hook, Plummer, Halstead, De Lee, Walls, Preble, Besley.

To say nothing of Nicholas Senn (deceased), Roswell Park, of Buffalo, J. A. Fordyce, of New York, and dozens of others of the same breed who will be in the forefront in another decade.

Is it worth while to try for the "County"?

The following report of the meeting was prepared for THE PLEXUS by Dr. John Ross Harger, an alumnus of the Cook Cook County Hospital and one of the most enthusiastic supporters of the "quiz" class:

THE COOK COUNTY HOSPITAL ALUMNI ASSOCIATION.

The annual meeting of the Cook County Hospital Alumni Association was held in the Auditorium Hotel Thursday evening, November 17, 1910. It was a joint session with The Society of Medical History of Chicago. Dr. A. I. Bouffler presided, with Dr. I. N. Danforth, who is president of the Historical Society.

The joint meeting was indeed appropriate, as the medical history of Chicago has been to a great extent that of Cook County hospital, and the men who figured largely in the former have to a marked degree been associated with the latter.

The meeting was very interesting in every detail, in keeping with the standards of the association and was addressed by men who are the recognized leaders of the profession, not only in Chicago, but in this country and well, it may be said, in the world.

Alumni members were present from several different states and they were unanimous in their endorsement of the meeting. We are proud, indeed, to be associated with and belong to an organization represented by such men as it was our pleasure to hear.

The program was as follows:

Dr. W. E. Quine, interne in 1868, "Early History of Cook County Hospital to 1870."

Dr. John B. Murphy, interne in 1879: "Surgery in Cook County Hospital, and the influence of the men who attended as surgeons from 1876 to 1896."

Dr. Frank Billings, interne in 1881: "The Civil and Political History of Cook County Hospital."

Dr. Quine's paper dealt with conditions as they existed in the preantiseptic days, when surgery was in its infancy and Cook County Hospital was in its youth. It was extremely interesting to those of us who have been associated with the hospital in "*more modern*" times, and it revealed to all the adverse circumstances and extreme difficulties under which the men of those days had to work.

Dr. Murphy discussed his subject in his usual clear and distinct manner, and left no doubt in the minds of his hearers that the surgeons connected with Cook County Hospital in that period were the representative men of their specialty, and that those men did as much, or more, than any similar group of men for the advancement of modern surgery in Chicago and in this country.

Dr. Billings fully appreciated the importance of politics in the County Hospital, and showed the advantages and disadvantages of such control. He also made clear how political and civil influence varied the efficiency of the work from time

to time, and frequently made it possible to render only inferior service to the patients.

If Cook County Hospital of thirty and forty years ago could produce and influence such men as these and as Nicholas Senn and Christian Fenger, when its equipment was very inadequate, the patients few in numbers, and surgery was in its infancy, and with little or no knowledge of the microscope and its wonderful revelations, what should it do today with equipment equal to any similar institution in this country, with facilities for clinical microscopy and research, and a technique for aseptic surgery second to none, coupled with an almost unlimited amount of clinical material and many of the best teachers of modern medicine and surgery to assist the men in making absolute diagnoses and instituting the most modern and scientific treatment?

A motion prevailed to appoint a committee to draft by-laws for the association and to provide for the raising of sufficient funds to pay the incidental expenses of the association. The president appointed Drs. G. C. Plummer, Wm. R. Cubbins and F. A. Besley.

Officers of the ensuing year are: Dr. M. L. Harris, President; Dr. Wm. R. Cubbins, Secretary.

103 State street. JOHN R. HARGER, M. D.

MERRY CHRISTMAS.

THE PLEXUS wishes the members of the faculty and every student of the college a Merry Christmas and a Happy New Year. The vacation which we are about to enjoy is a short one, but it will, we hope, be a joyful one, and beneficial as far as rest is concerned.

The past three months, with their many arduous tasks, have passed rapidly. To nearly everyone they have been profitable; but by a few, sad to say, wasted.

After this period of hard work, the ten days of rest and recreation will give the minds and bodies time to recuperate; and upon the return of the student in the new year, with

their numerous gilt-edged resolution, much can be expected, and probably some surprises in scholarship made.

SUPPORT THE Y. M. C. A.—DON'T LET A FEW MEN STAND THE EXPENSE OF YOUR ACCOMMODATION.

In the Y. M. C. A. notes in this issue of THE PLEXUS a mild request is made that those who frequent the Y. M. C. A. rooms contribute something toward its support.

The association is one of the greatest organizations in the world, concerning which every young man is thoroughly familiar. If he is not, he should be. The branch association at the College of Physicians and Surgeons was established and is being maintained for his benefit.

Usually when people accept any accommodations, favors or assistance they are anxious to reciprocate in some measure. Students in the college, nearly all of whom are benefitted in *some degree* by the association, can reciprocate to a *slight degree* by becoming associate members, if they do not wish to become active members.

To become a member costs only $1 per year. This little sum amounts to 12½ cents per month, or 2 7-9 cents per week, or 4.6 mill per day.

For approximately $0.0046 3 each day you can have a P. & S. Y. M. C. A. membership card, have the free use of the parlors, the magazines and the newspapers, *without feeling that you are imposing upon any one.*

If you are *not* a member and are making use of the association's accommodations you *really* are imposing. You are imposing upon the good nature and good will and kindness of those who *are* members. The members feel kindly to all, they want to make the place pleasant and attractive for every student. The room is to afford comfort and rest.

Did it ever occur to you that there is *some expense* attached to it? No, the officers are not paid salaries! but the papers have to be paid for, the periodicals have to be paid for, new furniture must be purchased occasionally and many incidental expenditures arise.

All these expenses are borne by the few members. Now, let us reason together. If we all get together, turn in our one "plunk," "cartwheel," or dollar, or whatever you wish to call it, what could be done? We would have in our college the strongest college Y. M. C. A. in America, considering the size of the school. We could fix up the room into very attractive parlors, refurnish it, buy more magazines and papers, and create a better feeling among the student body.

While we are talking about the Y. M. C. A., let us touch upon another matter. It is a noticeable fact that most of the men who frequent the parlors, and who are not members, are men who still have "barbaric inclinations." They take advantage of the absence of the officers, fill the room with smoke, and freely expectorate on the floor. They carelessly throw magazines about, tear up the newspapers, and make a general nuisance of themselves. Such tactics should be stopped, and every student with common decency should frown upon them.

There are many improvements to be made in the Y. M. C. A. of the P. & S., and these can be made when the majority of the students awake to the advantages of the organization. If you don't know what they are, read the little Y. M. C. A. vest-pocket note-book that the association has given you.

"PLEXUS" PAGES OPEN TO STUDENTS.

The pages of THE PLEXUS are open to the use of the student of the college. They are invited to contribute any material—article, stories, poems, notes or jokes. Those desiring to contribute can turn over their work to any of the class editors, or to the editor of THE PLEXUS. No article, however, will be published unless the editor or the class editors are given the names of the authors, which will be withheld if so desired.

It is hoped that students will take advantage of this opportunity to contribute writings. THE PLEXUS is the official

journal of the college, and efforts have been made, and will continually be made, to make it a strictly college paper. However, it needs the support of the student body, both in contributions of articles and in subscriptions. If you "run across" some good material, or hear a good joke, write it and turn it in for publication.

SOPHOMORE STUDENT OFFERS SOMETHING "NEW"—A SMOKING ROOM.

I have at hand a copy of THE PLEXUS of the issue of November, 1910, containing an editorial entitled "Medical Students Shock Visitor from Spotless Town." I heartily endorse everything the writer has said, as far as he went; but he did not, in my eyes, finish so good a suggestion. The author intends to start a crusade against smoke and spit, but does not offer any suggestion for the elimination of this unsanitary evil further than to *suppress* it. In physics we learned of the conservation of energy—needless to define it, as we all know this maxim. So it is in hygiene. You can not, practically speaking, cause a student who is a user of tobacco to cease its use in the building by telling him to stop, but you can *aid* the sanitation of the building by furishing a place for the indulgence of the habit. I have in mind several professional schools who have provided for the users of tobacco a room for that specific purpose. Trains, streetcars, hotels and like public institutions provide for the smoker, so *why not in our school?* The state provides a place for its legislators to indulge in a cigar, but its medical students (probably twice the number) must smoke in the hall and spit on the floor for want of better provision.

I honestly believe that the students of the P. & S. will heartily co-operate with the management in the crusade for the elimination of smoke and spit from its lecture rooms, class rooms and laboratories; but the law of the "conservation of energy" must be recognized. And in case such a provision is made, our "Visitor from Spotless Town," upon returning to our school, would think he was in the wrong pew.

A STUDENT.

SENIOR NOTES.

Another Time Honored Custom Broken.—No Quine Reception.

Not to be outdone by the lower classmen in the spirit of abolishing time-honored customs, the Seniors "got busy" and decided to hold no reception in honor of Dr. William E. Quine, dean of the college. This, the one great social function of the school year, was looked forward to with much pleasure and interest by the many who have witnessed similar affairs in which the graduates bestowed their respect to the head of the institution from which they were being sent upon their missions of life.

Last year this class surprised the student's body when it declined to hold a reception for the class of 1910. However, no one believed that this class would be the first to discontinue a custom so long established, and especially during the last years of the work of the eminent teacher and practitioner, who has done so much for the upbuilding of the college.

The main trouble seems to pretain to the nature of the affair. The thought of going to a formal function, dressed in attire befitting the occasion, did not agree with the majority. And among these were many who did not favor the function for pecuniary reason, and these, with the members who refused to go to any affair of this nature unless it were formal, voted that no reception be held.

The following is a short discussion which took place at the class meeting on November 22:

Mr. President:—"It is a question now whether this reception shall be a formal or an informal affair."

Mr. Carter:—"Mr. President, I think, since it has been the custom to make this a formal function and out of respect for Dean Quine, we ought to follow in the footsteps of our predecessors. Therefore, Mr. President, I make the motion we hold a formal function."

Followed by a loud clamor and jeers of "down with the aristocracy."

Mr. Rose: Mr. President, I don't like to dress up like a frog. I move we have an informal affair."

Mr. Duffy: "Mr. President, I move we make this a formal dance."

Mr. Furno:—"I second that motion."

Dr. Mundt:—"Mr. President, I believe that doctors consider themselves 'polished gentlemen.' We ought to commence to cultivate ourselves now and make this a formal reception."

Dr. Tullis:—"Mr. President, I move we wear whatever kind of clothes we wish—swallow tails or full tails."

Mr. Brown:—"I second Dr. Tullis' motion."

Final results:—Nothing! !

At the class meeting of December 9 the following ballots were cast: For Quine reception, 32; against Quine reception, 41; for formal reception, 32; for informal reception, 22.

After it was decided that we give no reception in honor of Dr. Quine, which is contrary to the custom of all preceding classes, the following motion was made by Mr. Baccus: "That we give *nothing* from now on." The motion was carried by a vote of 60 to 13.

Our friend Duffy made a splendid diagnosis of carcinoma of the stomach with metastesis in the liver and spleen, but overlooked to notify in time the colleagues and members of the profession concerning the change of residence of the pylorus of the stomach. For further reference, see Duffy's anatomy.

Albin Schoenleber is recovering from an appendical operation. Prof. Charles Davison, M. D., performed the operation at the University Hospital on Monday, December 5. The members of the class sent, with flowers, their best wishes for a speedy recovery.

A professional hint from a great surgeon: "Whenever the result of your operating turns out fatal, blame it on the heart."

There is "some class to Fuchsman! He knows how to make a good diagnosis in the chest, all right; and, further,

knows how to back his diagnosis. Fuchsman gave proof of his knowledge and ability at Prof. Williamson's clinic Tuesday, December 6.

Since the last statement made by an eminent diagnostician, that among the different classes of lies statistics occupy an important place, the use of statistical figures is a thing of the past among our senior students. Even our friend Pratt does not use them any more.

Dr. Steele in his opening remarks before the surgery class made this statement: "I expect all of your lungs are in perfect condition, but about your hearts I can not say as well." When he made this statement he was looking directly at McCarty! WE WONDER WHY?

In medicine quiz David Jones enlightened us with the information that the carse of the extreme emaciation in advanced cases of atrophic cirrhosis of the liver is the lack of appetite.

Dr. Steele advises every student and young practitioner to be very OBSERVING. He says that in his experience the WOMEN, both young and those not so young, are more observing by far than man. Quite observing, doctor!

From all appearances adjustable beds would be very desirous and fitting for a few senior students during lectures.

Section D,s last medicine quiz was a rather exciting one. Sanders, having been hit on the head with an ink-well, went on the war path with a dipper of water. He decided that Way was doing the target practice (which was a mistake) and let the water fly in his direction. Way dodged and hit his face against a sharp corner, jarring loose several teeth. Stober, an innocent (?) bystander, got most of the water down the back of his neck.

During the quiz following:

Dr. Samuels:—"Mr. Sanders give the treatment for appendicitis."

Mr. Sanders:—Operation every time."

Dr. Samuels:—"Miss Schwartz, what do you say as to treatment?"

Miss Schwartz:—"I would give Morphia."

And Dr. Samuels agreed. Mr. Sanders then "butted in" and said: "I am right because Dr. Williamson said so." This brought on a free-for-all argument, and needless to say class was dismissed early.

Mr. Furno:—"These whiskers make me lots more handsome, more dignified, look wiser and appear older. That is why I grew them."

Who said *Spit?*

A better term would be "Bronchorrhœa serosa" mixed with large quantities of tobacco. Another condition must be considered, however, and that is Bronchiectasis, though the severe paroxysm of cough is absent. It just comes and is deposited anywhere, any place and at any time. This condition is deplorable in freshmen, but is *inexcusable* in seniors. What will you do when you, as doctors, call on sick patients? Will you deposit it any where, any place and at any time then?

A notice on the bulletin board of Nov. 25th read: "All the *nutts* of the Senior class meet Dr. Williamson in room 406 at 4 this afternoon. Major." Who showed up?

This dialogue took place Dec. 1:

Stober—"When are you going home for the holidays, Zink?"

Zink—"I was intending to go the Wednesday evening before; but I dare not do it now, since my row with Dr. *What's-his-name* in the medicine quiz last night. He would flunk me sure if I did."

Stober—I was, too, but will stay until the following Monday; that is, Jan. 16th."

Zink—"Gee! why don't you start now?"

The Pit—"Say, what do they think I am—a waste-paper basket?"

The Glass of Water—No, it is not you they are firing at;

it is me. They want to spill me before Dr. Williamson arrives."

According to Dr. Williamson: "Amyloid liver is an extremely rare condition nowadays. Most of the cases I have seen occurred while I was on the 'benches.' Since I have been in practice, which is about twelve to fifteen years, I have seen but two or three cases. Come to think about it, I probably haven't seen any at all."

After Dr. Williamson's clinic recently the following dialogue was overheard:

Hempler—"McCarty, why did you embarrass Dr. Williamson by asking what medicine he gave that patient when the patient was standing right there?"

McCarty—"And why did you go to sleep and drop your notebook with such a bang?"

Hempler—Well, I did not do so bad as Popper; for when he was a asleep a bottle dropped out of his pocket—and a suspicious-looking bottle, at that."

SOPHOMORE NOTES.

According to W—m, bacteria "prolifricate" and F—g defines immunity as "insuspectability" to infection.

"Her voice was ever soft,
Gentle and low, as an excellent thing in women."
—King Lear, Act V, Sc. III.

"Billy" had Tse Tse in mind.

"ODE" ON THE ACCIDENTAL DEATH OF A RABBIT.

Our learned professor, George P.,
Said, "The rabbit is active, you see,
But with plenty of dope,
He should sleep well I hope,"
So he held his post-mortem at three.

Dr. Fantus refuses to accept "late slips."

F—y—!!! ?? *—! d—m—bz—!!

O—s—"—!!"

M—ey—! —— yawn ——

M—k—"Yes, doctor, I thought right, but I said wrong."
T. K.

Prescription writing:

Signa—Take one teaspoonful before going to bed in water. "Dr." Tupper.

O—s—"Bacillus typhosus is motile."

Instructor—"Explain."

O—s—"Well, humm—it has a body movement of its own."

Our notion of nothing to write is a soph. anatomy exam. The last one was a first-rate long distance endurance, marathon affair, well suited to the individual who is able to soak up anatomical information and pour it forth when necessary, but not for the individual who relies upon "*common sense*" to get through.

EHRLICH'S SIDE CHAIN THEORY SMASHED.

After having been rendered immune by an attack of the Tse Tee, one of the Sophomore microbes was again infected by another germ; and although heroic measures were taken by Mamma and Papa Microbe, the infection proved fatal. Mr. G. H. Microbe and Miss Elsie — were made Mr. and Mrs. G. H. Microbe. "SOPH."

There are those who say that the editor is enjoying an undeserved immunity. While no one is safe from his slams, he basks in perfect safety. To give a practical demonstration of the spirit in which amiable jabs should be taken, and to answer the unjust charge of excluding from THE PLEXUS slams against the individual who serves as the humble editor, we shall not only print every "pointed" knock, but will present the individual who makes the best one with a handful of good cigars, or if it be one of the fair sex, with a box of candy. That's fair enough.

C——y—"Say, Peck, what is the blood supply of the periosteum?" (meaning peritoneum).

℞

Aquæ diluti q. s. ad 30

"Dr." N—l.

S—k made some arsenic pills in the therapeutics lab. that might be used in the push-ball contest next year.

The freshman is usually a "smart young man." He is often clever, but he's always smart. The junior is an important individual, and the senior at graduation treads on air and not upon the gross and ugly earth. The sophomore, however, has very definite notions of his importance. He walks about as one to whom the gods have confided the secret of the universe. Dignity, personal worth, respectively, and an abiding austerity crop out all over him, especially from his ears along with whisps of hay. In order to observe a sophomore at his level best, one must see him when his dignity has been scratched by a slam in THE PLEXUS. The slam may be free from malice, good natured and in the right spirit; intended to stimulate. Nevertheless, behold this sophomore! He runs around yelping like a pup with a sore ear. "Quips and cranks, and wanton wiles" are taboo with him, and he will fight to maintain the taboo.

Under the circumstances the duties of a class editor are arduous, not unmixed with danger. For the delectation of those whose whose sense of humor has not undergone sophomoric atrophy, I shall sketch a few words, a typical interview. The time, subsequent to the appearance of a PLEXUS. Scene: The hall, second floor. Dramatic personal, irate soph. ye editor. The soph. drags himself to his greatest height. If clothes are black, so more dramatic will be the effect. His face is hard; jaw squared; lips compressed; fists clenched; eyes flashing; his chest is inflated not unlike a pigeon, or to use another simile, like a cow with a fever. The reproof comes, intense, scorching, restrained as befits so much dignity.

Who could keep a straight face under the circumstances?

FRESHMAN NOTES.

After having had a most pleasant Thanksgiving vacation all the members of the class are again hard at work preparing for the December examination. As a result, it seems

that the class presents an "ultra"-studious aspect when assembled; that the Sophomores apparently consider it a "feast for their eyes," for they often stop to look in (?) when the class is in 205 on Tuesday afternoons for biology.

Dr. Heintz—"What is a honey?"

No answer.

Dr. Heintz—"You are, apparently, not thinking of your Christmas vacation."

It seems that some still retain a little of the knowledge acquired in earlier school days. In a recent quiz destructive metabolism was described as "cannibolism," the cell being defined as the "histonical" unit of structure.

Dr. Gehrmann—"Would you be as much afraid of one microbe, if you met him on the street, as you would of a million?"

Woodward—"That depends on what kind of a microbe he was."

Dr. Heintz—"What is an enema?"

Student—"It is a preparation of a medicinal substance intended for external application."

Dr. Gehrmann—"If you place an itch nute on a piece of paper, what will it do?"

Wiese—"Why, he would do nothing on the paper."

In histology laboratory Dr. Horstmann had given out specimens of the spleen, explaining the structure and describing the Malpighian corpuscles. Having mounted the specimens the embryo doctors began a careful study. After some time of close observation, without much apparent success, Bower called Dr. Horstmann to his assistance asking: "Doctor, I can't make out those malignant corpuscles."

Our friend Simmons, who is a good student, finds the work rather strenuous and occasionally dozes off. Recently, after a long day's work, Simmons arrived at the border land of slumber during Biology lecture, which was made as interesting as our esteemed professor, Dr. Hortsmann, could make

it. He remarked that while the species under consideration is interesting study, yet there is little of importance for the medical student to remember. "But yet it is a gem," the doctor said.

Just then Simmons awoke.

"Did you say it's a gemmule?" asked the young man. Class was then dismissed.

SCHOOL NOTES.

Alpha Epsilon Iota.

The Grand Chapter meeting of Alpha Epsilon Iota (the National Medical Woman's Sorority), comprising eleven chapters in the leading medical schools of the United States, was held in Chicago on Nov. 25 and 26.

The guests were entertained at luncheon at the Quadrangle Club at the University of Chicago, and a banquet on Friday evening followed the business session.

Dr. Bertha Van Hoosen and Dr. Caroline Hedger held a combined medical and surgical clinic for four hours on Saturday morning at the West Side Hospital. The wives of the professors on the faculty of Rush Medical College entertained at tea at Field's in the afternoon, and the session closed with a theater party in the evening.

Next year Grand Chapter will meet at Ann Arbor, Mich.

County Quiz Class.

After some strenuous efforts by Dr. Rohrback and Mr. Hammond, chairman of the quiz class, schedules were arranged and promptly with the commencement of school the county quiz class of 1911 started on its course to make history.

Now two months of work have been completed and the reports issued by the different quiz masters are extremely encouraging, considering the early gloomy prospects.

Twenty students are enrolled who attend regularly to all the work, which comprises more than 15 hours of quizes a week.

Of this number Miss Maher is the only member of the femine sex who is taking the work, and up to date has ably kept up to the pace set by the "best of them."

The quiz masters in this work are nearly all ex-county internes, who, therefore, know the needs of the class for this competitive examination, and the best methods to grasp the subjects.

They are: Dr. Rohrback, obstetrics, twice a week; Dr. Dyas, surgery; Dr. Harger, surgery; Dr. Jones, surgery; Dr. Hayhurst, medicine; Dr. Holberg, medicine; Dr. Witkowski, medicine; Dr. Funkhauser, medicine; Dr. Smith, neurology; Dr. Seippel, gynecology; Dr. J. Beck, ear, nose and throat; Dr. Shaffner, skin and g. u.; Dr. Clement, eye; Dr. Nichols, pathology. Probably several hours will be added to this already crowded schedule. This class means hard work and plenty of it.

The hard grind is somewhat lightened by the wit of Popper and the antics of Elliott while waiting for quiz masters.

The present prospects indicate that all those now taking the course will work until it is completed, and after next March sit back and await results. It may be one; it may be all twenty—who can tell?

ALUMNI NOTES.

Dr. Oscar Reiss, Los Angeles, Cal., graduate of P. & S. (Ill.), 1906, is on his way to Berlin, Germany. Dr. Reiss has been connected with Northwestern Pacific R. R. Hospital. He will take up post graduate work at the University Hospital of Berlin.

Dr. Paul A. Svelber, 1910, visited at the college during the early part of the month. He is serving an interneship at the Hospital for Insane at Madison, Wis., and is devoting considerable time to research work on the brain.

Y. M. C. A. NOTES.

The association wishes all a Merry Christmas and a Happy New Year. We have not been able to do, so far this year, many of the things we had planned to do. But affairs have now been so arranged that we believe we will be able to carry out the plans without any delay, whatever, after the Christmas holiday's.

We wish to thank the majority of the students for the kind and helpful interest shown the association so far this year. Permit us to say that we would be very much delighted if those who make frequent use of the association room would contribute toward its support. We began the year in debt, and it has been rather difficult to keep the room in shape and provide periodicals for the use of all, with the limited funds at hand.

FRATERNITY NOTES.

Phi Rho Sigma Banquet.

The annual banquet of Beta Chapter of the Phi Rho Sigma Fraternity was held Tuesday evening, December 6, at the La Salle Hotel. All the active members were present, as well as a large number of alumni and honorary members. The banquet hall was appropriately decorated for the occasion with plants and flowers, while the colors of the fraternity, and of the college and the University of Illinois were artistically displayed. The function was, in every respect, the largest and best ever held by the Phi Rho Sigmas of the P. & S.

Dr. Channing W. Barrett acted as toastmaster in a most able manner. The speakers were Dr. Bernard Fantus, Dr. D. N. Eisendrath, Dr. N. M. Percy, Dr. A. Gehrmann, Dr. B. Baldwin, Dr. Edmundson, Dr. Heine, Dr. A. H. Ferguson, Dr. E. M. Brown, Dr. J. M. Edwards, Dr. C. C. O'Byrne and Mr. C. E. Miller, '12. Mr. W. L. Boyden, '11, president of the Chapter, rendered a vocal solo.

Eighth Annual Feast.

Alpha Chapter of Sigma Phi Epsilon Fraternity held its

eighth annual banquet at the Great Northern Hotel, Saturday evening, November 12. Many of the alumni and honorary members, as well as all the active members attended. Visitors from the University of Virginia, Dartmouth College and Purdue University were entertained. The banquet hall was fittingly decorated. The program consisted of toasts and musical numbers. Dr. Lee Gregg, '08, was the toastmaster, and among the speakers were Dr. A. Farrell, '07, of Honolulu; Dr. W. B. Lewis, '10; Dr. I. E. Hoffman, '09, and Dr. C. E. Wallace, of the University of Virginity; Mr. Frank Carter, '11; Mr. C. B. Jackman, '11; Mr. R. O. Taylor, '12; Mr. H. W. Maltby, '12; Mr. William Brown, '13, and Mr. J. J. Paul, '13.

Informal Dance.

The first of a series of three informal dances to be held during the college year, was given by Iota Chapter, Phi Beta Pi Fraternity, at the Humbolt Park Refectory on Wednesday evening, December 9. About seventy-five couples attended, enjoying one of the most delightful functions ever given by a P. & S. organization. Friedmann's orchestra furnished a program of twelve numbers and three extras. Refreshments were served. This chapter is also planning to hold a formal dance in the near future.

JUNIOR NOTES.

That Prom.

The present Junior Class is not troubled concerning a Junior-Senior Prom. Such a function is not even to be thought of, and we are merely mentioning it at this time to remind others (Sophomores take special notice) that this is the season of the year that definite plans should be made for one if it is to be held. Our friends, the seniors, do not expect one; in fact, they do not want one; and, furthermore, they are not entitled to one, since they placed themselves in a unique position by abandoning the function last year. To the Sophomores, however, we suggest that they consider the revival of this affair. We can not consider it because our hearts are not as big—we have not far reaching fraternal spirit. But you Sophomores have the spirit, as was demonstrated by the abolition of the pole rush. Let's plan on one next year.

Have You Heard the Noise?

We just heard a rumbling noise, a peculiar noise, a noise that comes but once a year. But it seems to us this noise is

coming earlier than usual. However, it has come to stay and we must endure it for several months, until it reaches a climax—in the words of the eminent Dr. E. G. Earle—reaches a crisis. The noise will, to be sure, disturb us (Juniors, not the editors) very much, and will, to a large degree, distract our attentions from our studies. But in the presence of this noise, what care we about our studies? We are here to listen to this annual noise, not to concentrate our minds on such trivial things as studies.

The big noise has a political ring to it—a most fascinating ring and all "sit up to take notice." The rumor is that some men are already "ambitious." "All honorable men are ambitious." And so these ambitious men are looking for political jobs and we must listen to their chirps, the reasons why they should fill important positions. It is certainly entertaining, and from now on we will have much to talk about. Probably in the next issue we will say more—mentioning some *good names*. We hope the noise is not "catching" and that the Freshmen and Sophomores are immune for a few months at least.

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